

1977

Virginia Commonwealth University Graduate Bulletin

Virginia Commonwealth University

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VIRGINIA COMMONWEALTH UNIVERSITY
RICHMOND, VIRGINIA
GRADUATE STUDIES BULLETIN



LIMITATIONS ON BULLETIN PROVISIONS

All rules and regulations set forth in this bulletin will apply until further notice. The university reserves the right to make changes in courses of study, fees, rules, and regulations governing the conduct of the work in all schools and programs, faculty and staff, and classification of students whenever university authorities deem it expedient or wise to do so.

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Virginia Commonwealth University

**Graduate Bulletin
1977-1978**

Volume LII

September 1977

Number 6

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1977-78 University Calendar

1977

July

- 8 —Last day for summer degree candidates to submit graduation applications to their advisors for August degrees
- 9 —Graduate Management Admissions Test
- 29 —Deadline for non-summer school students to submit all required transcripts, etc., for admission to a degree program for fall semester

August

- 22-25 —Orientation, advising, and registration for continuing, re-admitted, and new degree-seeking day students
- 23 —University faculty meeting at 9 a.m.
- 23-24 —Evening College registration
- 26 —Registration for non degree-seeking day students
- 27 —Conferral of degrees for August graduates
- 29 —Classes begin at 8 a.m.
- 29-Sept. 2 —Add/drop and late registration for all students

September

- 2 —Last day to submit special day applications for fall semester
- 5 —Labor Day holiday
- 23 —Deadline for special day students to submit required admissions documents to receive credit for fall semester
- Last day for fall degree candidates to submit graduation applications to their advisors for December degrees

October

- 10-Nov. 4 —Mid-semester evaluation
- 16 —Graduate Record Examination
- 21 —End of first eight weeks—fall semester

- 24 —Last day to process a change of major for spring semester
- 31 —Advance registration—Evening College
- 31-Nov. 11 —Advising and advance registration for continuing, degree-seeking day students for spring semester

November

- 5 —Graduate Management Admissions Test
- 18 —Last day to drop a course with a grade of "W"
- 23 —Thanksgiving holiday begins at 5 p.m.
- 28 —Thanksgiving holiday ends at 8 a.m.
- Deadline to submit an application for admission or re-admission to a degree program for spring semester

December

- 9 —Last day of classes for fall semester
- 10-18 —Final examinations for fall semester
- 11 —Graduate Record Examination
- 16 —Final date for oral defense of graduate theses for December completion of degrees
- 17 —Christmas vacation begins at 12 noon, except for Sunday classes
- 20 —All fall semester grades due in registrar's office by 9 a.m.
- 23 —Deadline to submit all required transcripts, etc., for admission to a degree program for spring semester
- 31 —Conferral of degrees for December graduates

1978

January

- 3-4 —Evening College registration
- 3-5 —Orientation, advising, and registration for continuing, re-admitted, and new degree-seeking day students
- 6 —Registration for day non degree-seeking students
- 8 —Graduate Record Examination
- 9 —Classes begin at 8 a.m.
- 9-13 —Add/drop and late registration for all students
- 13 —Deadline to submit special day applications for spring semester
- 29 —Last day for spring degree candidates to submit graduation applications to their advisors for May degrees
- 28 —Graduate Management Admissions Test

February

- 3 —Deadline for special day students to submit required admission documents to receive credit for spring semester
- 20-Mar. 24 —Mid-semester evaluation
- 26 —Graduate Record Examination

March

- 3 —Last day to process a change of major for fall semester
- End of first eight weeks—spring semester
- 4 —Spring vacation begins at 12 noon
- 6 —Summer advance registration begins
- 12 —Spring vacation ends at 8 a.m.

- 18 —Graduate Management Admissions Test
27-Apr. 7 —Advising and registration for continuing, degree-seeking day students for fall semester

April

- 7 —Last day to drop a course with a grade of "W"
23 —Graduate Record Examination
28 —Last day of classes for spring semester
29-May 7 —Final examinations for spring semester

May

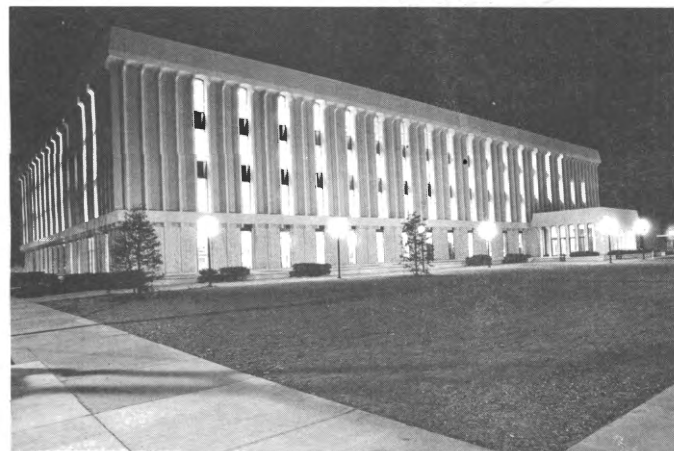
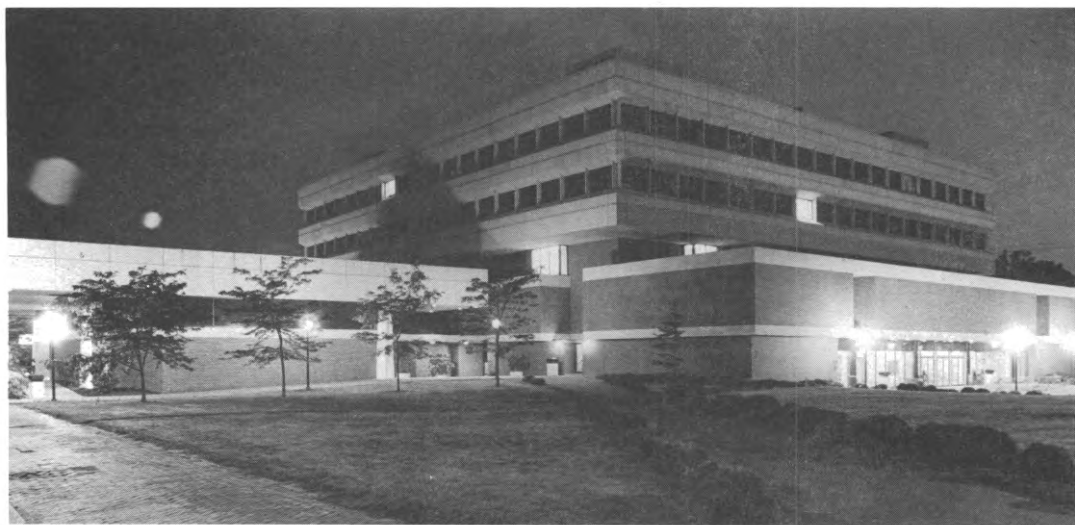
- 9 —All spring semester grades due in registrar's office by 9 a.m.
—Final date for oral defense of graduate theses for May graduation
13 —Commencement

June

- 11 —Graduate Record Examination

July

- 8 —Graduate Management Admissions Test



Virginia Commonwealth University

THE UNIVERSITY

Virginia Commonwealth University is an urban institution of higher education located in the heart of Richmond, Virginia. It is comprised of two campuses: The Medical College of Virginia Campus is located east of the financial, governmental, and shopping area of downtown Richmond; the Academic Campus is two miles west in a residential area that dates from the nineteenth century. This area is called the Fan District, so named because the streets separate from each other as they move westward. The Fan is bounded on the east by the Academic Campus and on the west by the Boulevard, on which is located, among other things, the Virginia Museum of Fine Arts and the Virginia Historical Society.

Virginia Commonwealth University was created in 1968 by a merger of the Medical College of Virginia and Richmond Professional Institute. VCU traces its founding date to 1838, the year in which the older of the two institutions, the Medical College of Virginia, was created as the medical department of Hampden-Sydney College. This department became an independent institution in 1854. The Academic Campus was the former Richmond Professional Institute (RPI) which began in September 1917 as the Richmond School of Social Work and Public Health.

Today the total university enrollment is more than 18,000. The university has four teaching hospitals and 12 academic schools (Allied Health Professions, Arts, Arts and Sciences, Basic Sciences, Business, Community Services, Dentistry, Education, Medicine, Nursing, Pharmacy, and Social Work) which offer 66 undergraduate programs, 61 master's degree programs, two first professional degree programs, and 16 Ph.D. programs. The university has a diverse student body. Persons of all ages pursue their education at VCU, and come from every segment of society. Forty-eight states and 21 foreign countries are represented in the university's student body.

The university is a member of the American Council on Education, the American Association of State Colleges and Universities, the Council of Graduate Schools in the United States, the Association of Urban Universities, Oak Ridge Associated Universities, the Association of University Evening Colleges, the National Association of College and University Summer Sessions and the Association of Virginia Colleges. Virginia Commonwealth University is fully accredited by the Southern Association of Colleges and Schools, the regional accrediting agency for institutions of higher education in the Southern area of the United States.

THE MISSION OF VIRGINIA COMMONWEALTH UNIVERSITY¹

Virginia Commonwealth University is a comprehensive, urban, public university whose mission is to provide a fertile and stimulating environment for teaching, learning, research, and service; to promote the pursuit of knowledge; and to disseminate professional skills. Characteristic of comprehensive universities, its thrust is toward the education of citizens who need the solid values and proven strengths of the past as well as knowledge of future alternatives in dealing with society's increasingly urban-influenced problems, wherever these problems may exist. The university's mission includes the provision of:

A scholarly climate which will inspire in the student a lifelong commitment to learning and service; which will develop in the student competence and motivation to work toward the realization of individual and community potential; and which will set for the student an example of excellence.

An environment of educational excellence which values diversity and enables faculty to pursue their work in accordance with the highest standards and to serve as exemplary role models.

Educational services for the adjacent urban community through flexible scheduling and for adults and professionals in adjacent regions through continuing education programs.

Educational experiences away from the metropolis for selected programs so that graduates are prepared to serve the Commonwealth in diverse locales.

Research and educational activities in all disciplines to develop and communicate new knowledge, to improve the quality of life, and to promote the best use and general understanding of human and environmental resources.

The recognition of the imaginative power of the arts and humanities in reflecting the problems and aspirations of society; and the providing of oppor-

tunities to emphasize the value of the arts and humanities for oneself and for society through public exhibitions and performances.

Comprehensive health care services which meet patient and community needs and which provide an optimal environment both for education and training of health care professionals and for innovative studies on improving health care delivery.

The establishment of the university as a planning and resource center which, drawing upon the unique resources of a major urban area, is devoted to the solution of problems confronting Virginia's communities; to the identification of emerging social needs; and to the planning required for orderly future growth and development.

GRADUATE EDUCATION IN THE UNIVERSITY

Graduate programs are administered by the individual departments and schools throughout the university with assistance from the Office of the Associate Vice President for Research and Graduate Affairs. Major coordination of the various degree programs is performed by the University Graduate Council, which is comprised of two faculty members, one elected and one appointed, from each of the twelve schools. Graduate student members from each of the two campuses also have membership on the Council, which is chaired by the associate vice president for research and graduate affairs. The membership of the University Graduate Council during the 1976-77 academic year is shown below:

Term Ending June 30, 1978

| | |
|-------------------|----------------|
| Richard Elzay | Dentistry |
| Barbara Munjas | Nursing |
| Steven Price | Basic Sciences |
| Eleanor Repp | Nursing |
| Robert Schneider | Social Work |
| Mervyn Wingfield | Business |
| Claire Wompierski | Social Work |
| Esther Zaret | Education |

¹As approved by the Board of Visitors, March 17, 1977.

Term Ending June 30, 1979

| | |
|------------------|---------------------------|
| Robert Bass | Arts and Sciences |
| Marvin Boots | Pharmacy |
| William Dewey | Basic Sciences |
| Maurice Duke | Arts and Sciences |
| Richard Hardy | Community Services |
| Priscilla Hynson | Arts |
| Otto Payton | Allied Health Professions |
| Smith Shadomy | Medicine |

Term Ending June 30, 1980

| | |
|---------------------|---------------------------|
| Moustafa Abdelsamad | Business |
| Fred Browning | Education |
| Benjamin Cullen | Allied Health Professions |
| George Gander | Medicine |
| Leonard Hippchen | Community Services |
| Richard Ranney | Dentistry |
| William Stewart | Arts |
| John Wood | Pharmacy |

Below are listed the graduate degree programs offered by Virginia Commonwealth University. Detailed information about each of the programs may be found in Part II of this bulletin.

Master of Arts

Art History
Economics
English/English Education

Master of Business Administration**Master of Fine Arts**

Crafts
Painting and Printmaking
Design*
Sculpture
Theatre

Master of Art Education**Master of Education**

Administration and Supervision
Adult Education
Biology Education

Counselor Education
Distributive Education
Elementary Education
Mathematics Education
Special Education: Mental Retardation
Special Education: Learning Disabilities
Special Education: Emotionally Disturbed

Master of Hospital Administration**Master of Music**

Applied Music
Church Music
Composition
Education
Music History

Master of Music Education**Master of Science**

Administration of Justice
Anatomy
Biochemistry
Biology
Biophysics
Biostatistics
Business
Chemistry
Gerontology**
Human Genetics
Mass Communications
Mathematics
Medical Technology
Microbiology
Nursing—Community Health
Nursing—Maternal and Child Health
Nursing—Medical Surgical
Nursing—Psychiatric-Mental Health
Occupational Therapy
Pathology
Pharmaceutical Chemistry
Pharmacology
Pharmacy and Pharmaceutics
Physical Education
Physical Therapy
Physiology

**Program and course descriptions for gerontology are not listed in this bulletin. Requests for information should be sent to the Director of Graduate Affairs, Office of Research and Graduate Affairs, Virginia Commonwealth University, Richmond, Virginia 23284.

*To be implemented for the 1978-1979 academic year.

Psychology—Clinical
 Psychology—Counseling
 Psychology—General
 Rehabilitation Counseling
 Sociology

Master of Public Administration

Master of Social Work

Master of Urban and Regional Planning

Doctor of Education

From Virginia Polytechnic and State University in conjunction with Virginia Commonwealth University.

Doctor of Philosophy

Anatomy
 Biochemistry
 Biophysics
 Biostatistics
 Chemistry
 Human Genetics
 Microbiology
 Pathology
 Pharmaceutical Chemistry
 Pharmacology
 Pharmacy and Pharmaceutics
 Physiology
 Psychology—Clinical
 Psychology—Counseling
 Psychology—General
 Social Policy and Social Work

RESOURCES

Libraries. The University Libraries consist of the James Branch Cabell Library on the Academic Campus and the Tompkins-McCaw Library on the MCV Campus. Both libraries have expanded space and service through recent major construction projects and now provide a combined capacity of 1,360,000 volumes and seating for over 2,450.

The James Branch Cabell Library, because of the diversity in living and working patterns of VCU students, is open from 7:30 a.m. to midnight four days per week and shorter hours on the three remaining days. Other features such as a recorded music and plays collection, audio visual department *assistance in film production*, book and coat

lockers for commuting students, inexpensive and easy-to-use copy machines, group study areas, and typewriter facilities make the James Branch Cabell Library a resource center serving the needs of the student body. The Cabell Library is also a repository for federal and state documents critical to research in a number of areas.

The Tompkins-McCaw Library, located on the MCV Campus, contains a major research collection that is particularly strong in the health sciences. It is open from 8:00 a.m. to 11:00 p.m. five days a week, with shorter weekend hours. Complete sets of all major indices in the biomedical and health science fields are also part of the reference collection. Trained search analysts are available to help patrons obtain computer-produced bibliographies on specific biomedical and health-related topics.

Of particular note is the reference service of the libraries. Staff members welcome and encourage patrons to ask questions about the difficult-to-find materials which may be needed to successfully complete research projects.

Some professional collections are housed in individual schools. Students should consult department chairmen for information concerning such collections.

In addition to its own collections, the university is an active participant in the inter-library loan service and can obtain materials readily from other colleges and universities in Virginia and the Library of Congress. The Virginia State Library and the main branch of the Richmond Public Library are both within walking distance of the university and between these two institutions students gain access to an additional one million volumes.

Research. While Virginia Commonwealth University is one of the leaders in teaching among the institutions of higher education in the state, it is also an institution which commits a significant portion of its resources to research and scholarly activities. VCU is fully committed to the proposition that a broad-based program of research investigations enhances the teaching mission of the university while, at the same time, it improves the quality of

services provided to the community. During the fiscal year ending on June 30, 1977, the university received over \$16 million in sponsored program support from a variety of federal agencies, private organizations, philanthropy, and endowment income. The extensive and diverse nature of the university's research programs are directly related to the excellence of the faculty on both campuses. The prospective graduate student can anticipate working in a lively intellectual environment. Many faculty of the university who are directly involved in graduate education programs are recognized nationally and internationally in their fields of endeavor.

The University Computer Center. The University Computer Center provides computing support for the instruction, research, and public service functions on both campuses of the university. The central office and major equipment of the center are located on the Academic Campus in the School of Business building. Two branch facilities are maintained on the MCV Campus. The central equipment includes two computers, an IBM 370-158 and an IBM/370-145 with over a million bytes of storage. Remote job entry terminals and typewriter terminals are located on both campuses to provide convenient access to students, faculty, and staff. The Data Acquisition Facility provides a special purpose computer on floor B-3 of Sanger Hall to provide real-time data acquisition services from laboratories and clinical research areas on the MCV campus. The overall goal of the facility is to enhance the scope of educational and research programs at MCV by the appropriate use of real-time and/or direct data analysis system. The facility is under administrative control of the provost of the MCV Campus. Computer services are used widely in all graduate programs of the university and are accessible to graduate students at all levels.

STUDENT SERVICES

Housing. Requests for housing information should be addressed to the following: for the Academic Campus, contact the Director of University Housing Services, Virginia Commonwealth University, 915

West Franklin Street, Richmond, Virginia 23284; for the MCV Campus, contact the Coordinator of University Housing, Virginia Commonwealth University, MCV Station, Box 265, Richmond, Virginia 23298. Applications for apartment rentals for married students enrolled at the MCV Campus should be addressed to the MCV Station address. There are no facilities for married students at the Academic Campus; but since that campus is located in a residential area, commercial housing is readily available within walking distance.

Health Services and Insurance. The university offers a comprehensive program of prepaid medical care through the Student Health Service and a supplemental accident and sickness hospitalization insurance plan. Descriptive brochures are sent to each regularly enrolled student prior to the start of the academic year.

The Student Health Service on the MCV Campus is supported by a health service fee which is required of all students enrolled in programs on that campus. A university sponsored student accident and sickness hospitalization insurance plan supplements the benefits available under the MCV Student Health Service and provides protection against the high cost of hospitalization and treatment for illness and accident. The insurance plan is voluntary but is strongly recommended for students who do not already have comparable coverage. Married students may enroll their spouses and dependent children. Part-time students not living in university dormitories are not eligible for the insurance plan.

The University Health Service on the Academic Campus is available to all students in emergencies, and the full health service is available to all who pay the University Health Service fee. Dormitory residents are required to subscribe to the Health Service, which maintains an infirmary, nursing care, and consultation service with university physicians as well as an excellent referral system to the medical community. Non-dormitory, full-time students may also subscribe to the health service by payment of the prescribed health service fee.

The university is not responsible for

accidents occurring to students in connection with class, laboratory, shop, field work, athletics, student activity, travel, or other activities. However, the university makes available to students approved insurance providing benefits at group rates.

Postal Service. The university operates two branches of the United States Postal Service. Mail destined for the Academic Campus should be addressed to Virginia Commonwealth University, Academic Campus, 918 Park Avenue, Richmond, Virginia 23284. Mail destined for the MCV Campus should be addressed to Medical College of Virginia, Virginia Commonwealth University, MCV Station, Richmond, Virginia 23298. The street address of the MCV Campus Post Office is 1200 East Broad Street. Window service is offered at both branches Monday through Friday, 8 a.m.-5 p.m.

Campus Gymnasiums. Both campuses of the university have gymnasiums which offer recreational and physical fitness programs. For information about available resources as well as for eligibility to use the various facilities, students should consult those in charge of the individual gymnasium concerned.

Student Rules and Procedures. Virginia Commonwealth University is an academic concept as well as a physical entity, which is given meaning through the individuals who comprise the university community. Each member is entitled to certain rights and privileges which must be guaranteed through fair and orderly processes. These rights and privileges are best safeguarded if members of the university community act in an orderly and responsible manner. Accordingly, all students are governed by the *Virginia Commonwealth University Rules and Procedures* statement, copies of which can be obtained from the dean of student life, Ginter House on the Academic Campus, or the associate dean of student life on the MCV Campus, Men's Residence Halls, Tenth and Leigh Streets. In addition to being subject to the *Virginia Commonwealth University Rules and Procedures*, students on the MCV Campus are subject to the rules of an honor code, copies of which

are available from the Office of Student Government on the MCV Campus.

ADMISSIONS

The university is fully committed to equal opportunity in its graduate education programs and, thus considers all applicants without regard to race, creed, sex, or national origin. Likewise, while Virginia Commonwealth University is a state-supported institution of higher education, applications are not limited to those who are residents of the Commonwealth of Virginia; however, priority is extended to applicants who are legal residents of the state. To better serve all types of students many graduate courses are offered during the evening and week-end hours.

Application. Application forms and materials may be obtained either from the Director of Graduate Affairs, Office of Research and Graduate Affairs, Virginia Commonwealth University, 301 West Franklin Street, Richmond, Virginia 23220; or from the department or school to which specific admission is sought and should be returned for processing to that department or school. There is a \$10 non-refundable application fee which must accompany the application.

An application cannot be given final consideration until all required credentials have been received. These include the following: (1) an official transcript from each college or university previously attended, (2) letters of recommendation, and (3) report of scores achieved on the Graduate Record Examination or other entrance examinations required by the program or school to which admission is sought. The credentials above should be considered as minimal only. Applicants are referred to Section II of this bulletin for additional and detailed information concerning admission requirements to specific programs and schools.

Admission Requirements. General admission requirements for graduate study in the university are as follows: (1) graduation from a college or university accredited by a regional accrediting agency; (2) a satisfactory scholastic average to demonstrate that the applicant has had adequate preparation for the field in which graduate studies are to

be undertaken; (3) a satisfactory score on the appropriate entrance examination required for admission by the program or school to which admission is sought; (4) such additional requirements as may be established by individual programs and schools. These may include personal interview, audition, submission of a portfolio, or other requirements.

Types of Admissions. Students may be admitted to graduate studies in Virginia Commonwealth University under the following classifications:

1. Prospective candidate for degree: A student who meets all requirements for admission to a degree program and who has been recommended by the department in which he/she proposes to study may be admitted as a prospective candidate for a graduate degree.
2. Provisional status: Students who have not fully met the requirements stipulated by the program or school to which admission is sought may be granted admission as a prospective candidate for a degree with a provisional status. Such students must have as their initial objective the removal of any deficiencies, and their advancement to regular status. A provisional student who does not meet the necessary continuance standards will be dropped from the degree program. The required standards for continuance are specified for the several graduate programs in Section II of this bulletin.
3. Non-degree status: Students without advanced degree objectives may be admitted to non-degree status and are not eligible to become candidates for graduate degrees. Non-degree status serves two groups of students:
 - a. Those students interested only in enrolling in graduate courses for self-improvement.
 - b. Those students interested primarily in certification credit without degree objectives either preceding or following a graduate degree program.

Application Procedures. Each completed application should be submitted to the

dean's office which administers the program to which admission is sought. When received, the completed application with supporting materials is referred to the specific department or program in which the applicant proposes to study, where it is reviewed by the faculty of that program or school. No student will be admitted without the approval of the program or school to which admission is sought. Final notification of acceptance is made by the dean of the appropriate school. Admission to a graduate program at Virginia Commonwealth University may be contingent upon the successful completion of undergraduate courses, degree, or other prerequisites that may be appropriately specified by the program or school to which admission is sought. Applications and supporting materials should be received in the dean's office of the appropriate school within deadlines specified in Section II of this bulletin. Late applications will be given as much consideration as possible but may require provisional admittance for the first semester of study.

International Students. The university subscribes to the intent and purpose of the Mutual Educational and Cultural Act, the regulations of which permit international students to become a part of the university community until their objectives are met.

In order for the university to qualify with the United States government as a place of training for international students, the university is obligated to determine; (1) that applicants have the necessary ability and educational backgrounds to benefit from their experiences at this institution; (b) that their proficiency in English is sufficient to carry a full program of graduate study through submission of a satisfactory score on the test of English as a Foreign Language (TOEFL); and (c) that they have all the funds necessary for their expenses for the entire period of their stay without resorting to employment while in the United States. The university has no financial resources for foreign students.

Foreign students who do not hold permanent visas cannot qualify as residents of Virginia and must pay the non-resident tuition charges.

Once a foreign national has been admit-

ted, he or she is treated as any other student except for the immigration and naturalization rules and regulations which take precedence over university rules. The university cannot register a foreign national until the Immigration and Naturalization Service officially gives its approval.

The university has a foreign student advisor who meets with all foreign students after their arrival, counsels and advises them to their adjustment to the university, and prepares the necessary forms needed by foreign nationals to maintain correct visa status with the United States government.

Foreign students residing outside the United States should allow six months between application for admission and actual matriculation at the university.

DEGREE REQUIREMENTS

The minimum course requirements, rules of admission to degree candidacy, language requirements, theses or dissertation requirements, comprehensive examinations, transfer of credits, and the like, are spelled out for each program in Section II of this bulletin. Many schools, programs, and departments print special catalogs, student manuals, and program guides which can be requested from the appropriate dean or program director.

GRADUATE TUITION AND STUDENT FEES, 1977-78

Graduate Tuition 1977-78

| | |
|-----------------|-----------------------|
| State Resident: | |
| Full-time | \$ 770 |
| Part-time | \$ 43 per credit hour |
| Out of State: | |
| Full-time | \$1,090 |
| Part-time | \$ 64 per credit hour |

Hospital and Health Administration

| | |
|-----------------------|---------|
| First Year—Virginia: | |
| Regular Session | \$1,005 |
| Summer Session | \$ 394 |
| Out of State: | |
| Regular Session | \$2,010 |
| Summer Session | \$ 788 |
| Second Year—Virginia: | |
| Regular Session | \$ 470 |
| Summer Session | \$ 364 |
| Out of State: | |
| Regular Session | \$ 940 |
| Summer Session | \$ 728 |

Fees

| | |
|---|----------------|
| MCV Campus | |
| Application Fee (Both campuses—non-refundable) | \$ 10 |
| Consolidated Fee | \$130 |
| Late Registration Fee | |
| (Both campuses—non-refundable) | \$ 10 |
| Room Rates | \$730 to \$760 |
| Meal Plans (Both campuses) | |
| | \$680 to \$710 |
| Laundry (Both campuses) | |
| | \$ 34 |
| Diploma Fee (Part-time degree-seeking students) | |
| | \$ 16 |
| Academic Campus | |
| *Activities, Athletic, and Facilities Fees | \$ 61 |
| Diploma Fee | \$ 16 |

Part-Time Graduate Study Fees. Regularly enrolled candidates for the M.S. or Ph.D. degrees in residence on the MCV Campus will be charged full tuition and fees if registered for nine or more semester hours. The part-time tuition rate will be paid by students registered for less than nine semester hours. Graduate students must register for a minimum of one semester hour each semester they continue as a candidate for a degree. The time limit for completion of requirements is five years for the M.S. degree and seven years for the Ph.D. degree. Since the part-time student does not pay the MCV consolidated fee, he will not be eligible for other student benefits while in residence.

State Residence. The law affecting residence in Virginia is as follows: "No person shall be entitled to the admission privileges, or the reduced tuition charges, or any other privileges accorded only to domiciliaries, residents or citizens of Virginia, in the state institutions of higher learning unless such person is and has been domiciled in Virginia for a period of at least one year prior to the commencement of the term, semester or quarter for which any such privilege or reduced tuition charge is sought, provided that the governing board of such institutions

*Of this amount 50 cents is allocated to the Dean of Student Life Contingency Fund.

may set up additional requirements for admitting students." Student applications for Virginia residency are processed through the University Registrar's Office on the appropriate campus.

Refunds and Rebates. A full- or part-time student who is admitted to a graduate program and who withdraws in good standing shall be entitled to a refund of a portion of his/her tuition, room, and board fees for the semester in which he/she is currently enrolled. All other fees are non-refundable.

Request for Refund

A request for a refund shall be made in writing to the dean of each school and to the dean of student services before said request can be considered. The following policy governs the refund of room, board, and tuition fees:

1. A student who fails to register or who is denied permission to register will be entitled to a full refund of tuition, room, and board if paid in advance.
2. A student will be entitled to a refund of 80 per cent of his room, board, and tuition fees upon withdrawal before the end of the first week of the term (seven consecutive calendar days beginning with the first day of classes) and a decrease of 20 per cent each week thereafter up to and including the fourth calendar week. **NO AMOUNT WILL BE REFUNDED FOR WITHDRAWAL AFTER THE FOURTH CONSECUTIVE CALENDAR WEEK OF THE TERM.**
3. A student will not be entitled to a refund of room fees if he voluntarily withdraws from the university residence halls but remains registered for any course or courses at the university unless clearance is granted through the Office of the Dean of Student Services.

The actual date of withdrawal will be certified by the Office of the University Registrar; and refund, when appropriate, will be computed based on that certified date.

Delinquent Accounts. The university will not issue a degree, transcript, or grade reports to any student who has not paid all charges in full. Students whose accounts are not paid in full may not be admitted to final examinations at the end of semesters.

FINANCIAL ASSISTANCE AND STIPENDS

The university administers a Financial Aid Office which offers, when possible, financial assistance to deserving and qualified students. Graduate students may obtain information and applications for such aid by writing the Financial Aid Office, Virginia Commonwealth University, 915 West Franklin Street, Richmond, Virginia 23284.

The university does not offer a financial aid plan for direct payment of semester charges on an installment basis. Those who wish to pay college costs in installments should apply to The Tuition Plan, Concord, New Hampshire 03301.

One form of financial aid is a loan from the Guaranteed Student Loan Plan. The Commonwealth of Virginia sponsors loans under this program. The major benefit of the loans is that the interest which accrues prior to the repayment period is paid by the United States government on behalf of the borrower. In Virginia, the terms of the loan are: (1) a maximum of \$2,000 per year, (2) an aggregate limit on all loans of \$10,000 (3) an interest rate of seven percent, (4) no repayment necessary until nine months after graduation. Applications are available from and submitted to participating banks, not VCU. Usually, banks require that the applicant has had an account with them for a period of time before applying for the loan. For further information regarding this program and for a list of participating lending institutions in the student's area contact the State Education Assistance Authority, 1116 United Virginia Bank Building, Richmond, Virginia 23219.

Students who are eligible for veterans' benefits should contact the Veterans Coordinator, 901 West Franklin Street, Richmond, Virginia 23284. Telephone (804) 770-7238.

Individual schools and departments also offer limited financial aid in the form of tuition stipends, student assistantships, work-study programs, research grants, scholarships, traineeships, and other kinds of support. Inquiries should be addressed to the individual schools and departments.

GENERAL ACADEMIC REGULATIONS

Advising Program: Students are responsible for the proper completion of their academic programs. They should be familiar with the university bulletin, including general academic regulations and any other supplementary academic regulations presented by individual schools and departments. The offices of the deans and department chairmen, in cooperation with the faculty, endeavor to follow each student's academic progress, and students are encouraged to seek counsel whenever there is a need. If an advisor is unable to resolve a problem satisfactorily, he or she will refer the student for further advice as is deemed appropriate and necessary.

Attendance Continuance Policies. Attendance and continuance policies vary among the individual schools and instructors. Students should consult the appropriate department for further information.

Change of Discipline. Students wishing to change their graduate discipline should contact the director of graduate affairs in the Office of Research and Graduate Affairs. The director will work with the administrators of the two disciplines to facilitate the transfer process for students who are eligible.

Generally a new application must be submitted to the new program containing all material required of a new applicant.

Change in Registration. Students registered for a planned program of courses are expected to maintain registration except for special reasons. Should a change of program be deemed advantageous to the student and the school by the appropriate school dean, the student may make the change during the add/drop period after the beginning of classes. Changes in registration are performed at the Office of the University Registrar, or a place designated by the registrar, by the following procedure:

(a) An add/drop form, obtained at the Office of the University Registrar, is used to add or drop courses and must be signed by the student's advisor, department chairman, and dean.

(b) Courses dropped during the add/drop period do not become part of the student's permanent academic record.

Degree Requirements. Candidates for degrees are eligible for graduation upon completion of all requirements in effect at the time of the first registration, provided the requirements are met within the time limit specified by the school or program. In no case will the time limit for a graduate degree extend beyond a period of seven years. Students failing to satisfy the time requirement and readmitted to a program shall satisfy requirements in effect at the time of reacceptance into the degree program.

All degrees are conferred by the VCU Board of Visitors upon recommendation of the faculty. Degrees are granted at the close of the semester or summer session in which the students complete their work. No degree will be conferred unless the student makes a formal application for graduation at the beginning of the final semester: See Section II for exact deadlines.

Degree requirements are specifically outlined in Section II of this bulletin.

POLICIES AND PROCEDURES FOR GRADUATE STUDIES

1. The grading system uses A, B, C, D, and F with numerical equivalents of 4.0, 3.0, 2.0, 1.0, and 0 respectively, and the special grades of "I" and "PR."

If, because of circumstances beyond the student's control, the student is unable to meet all the requirements of the course by the end of that semester, the grade of "Incomplete" ("I") may be given. The award of a grade of "Incomplete" requires an understanding between the instructor and the student as to when and how the course will be completed. The maximum time limit for submission of all course work necessary for removal of an "Incomplete" is the end of the last day of classes of the next semester following the semester (or summer session) in which the "Incomplete" was incurred. At that time an unremoved grade of "Incomplete" is automatically changed to a failing grade. An extension of the time limit is possible but must be approved, prior to the expiration date stated above, by the instructor and the dean of the school through which the course is offered. Written approval indicating the new time

limit must be filed with the university registrar by the dean.

The grade of "Progress" may be used only in thesis or dissertation courses and other courses designated by the University Graduate Council. "PR" is assigned as an interim grade for courses which are not completed at the time final grades are to be submitted. A grade of "PR" will not be included in the calculation of the grade point average (GPA). The grade of "PR" must be removed within the time limit set for the degree.

2. A graduate student may, upon the approval of the advisor and the instructor and when class size permits, register for a course on an audit basis. Audit students are charged the regular rate of tuition and fees and audit courses are counted as part of the student's semester credit hour total. A student auditing a course is subject to attendance regulations but is not required to take tests or the final examination. A grade of "AU" will be entered on the academic record of all students enrolled for audit.

A change in registration from "audit" to "credit" must be effected during the add/drop period. A course taken for audit cannot be given credit at a later date.

TRANSCRIPTS

Permanent academic record or student record folders will not be released from the Office of the Registrar except in very special instances and in conformity with legal requirements.

Official transcripts of a student's academic record will be issued only upon written request of the student.

A charge of one dollar will be made for each transcript.

Transcripts given directly to students do not carry the university seal and are not official. The seal is attached when the transcript is mailed directly from the university to the receiving party. Every effort will be made to expedite transcript service, but the student should allow time for this service, especially during registration or other peak periods.

WITHDRAWAL FROM THE UNIVERSITY

Students finding it necessary to withdraw before the end of a semester must complete an official university withdrawal form obtained from the registrar on the appropriate campus.

For students officially withdrawing from the university before mid-semester (end of the eighth week), the permanent record will indicate a grade of "W" for each course being pursued.

For students officially withdrawing from the Academic Campus after mid-semester (end of the eighth week) and prior to the last three weeks of class instruction of a semester, the permanent record will indicate a grade of "W" if approved by the individual instructors of courses being pursued at the time of withdrawal.

For students officially withdrawing from the MCV Campus after mid-semester (end of the eighth week) and prior to the last three weeks of class instruction of a semester, the permanent record will indicate grades of "WP" or "WF" assigned by the individual instructors of courses being pursued at the time of withdrawal.

For students withdrawing without permission, the permanent record will carry a grade of "F" for each course pursued at the time of unofficial withdrawal.

TERMINATION OF ENROLLMENT

The university reserves the right to terminate the enrollment of any student for unlawful, disorderly or immoral conduct, plagiarism, or for persistent failure to fulfill the purposes for which he or she was matriculated. Any student whose relations are so severed forfeits all rights and claims with respect to the institution. In addition to those standards of conduct described in the *Virginia Commonwealth University Rules and Procedures* document and the *Medical College of Virginia Honor Code*, which applies to all student enrolled on the MCV Campus, a student enrolled in the university may be dismissed from the school in which he or she is enrolled for failure to meet specifically prescribed academic program requirements. Virginia Commonwealth

University recognizes its responsibilities to the various professions and to the consumer of the services that professionals render. Therefore, any action by a student of the university considered to be unprofessional conduct according to the codes of ethics and the laws and regulations governing the student's chosen profession, shall constitute cause for dismissal or disciplinary action.

Unprofessional conduct includes, but is not limited to:

1. Fraud or deceit in gaining admission to the university, i.e. false or obviously misleading representations on the admissions application.

2. An act that violates the established legal standards regarding conduct of one person towards society, i.e. stealing, lying, cheating, plagiarism, and slander.

3. Conviction of a felony involving moral turpitude.

ALUMNI OF THE UNIVERSITY

Virginia Commonwealth University has 32,000 alumni who live in each of the states

and several foreign countries. The Alumni Activities Office coordinates alumni functions and serves as a resource center for those who studied here.

Through the annual fund, alumni are given the opportunity to support the various schools and departments in the university. Such support provides resources for innovation and the development of educational programs.

Inquiries about alumni activities should be addressed to the Alumni Activities Office, 818 West Franklin Street, Richmond, Virginia 23284, or telephone (804) 770-7124.

IDENTIFICATION OF SYMBOLS FOR COURSE LISTINGS

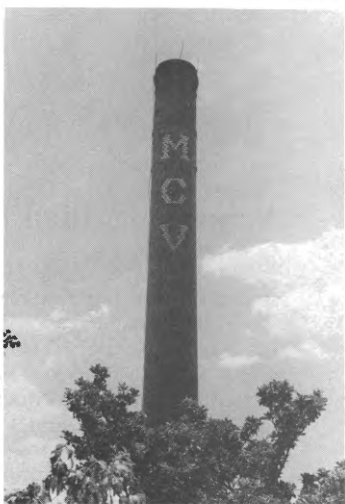
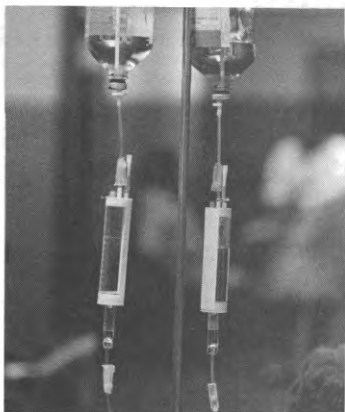
I A course given in the first semester

II A course given in the second semester

I, II A course given in each semester

I and II A course continued through two semesters

S A course given in the Summer Session



School of Allied Health Professions

The School of Allied Health Professions was established on January 1, 1969.

A fundamental reason for the establishment of the School of Allied Health Professions was to provide an administrative structure for existing educational programs in allied health disciplines and to direct the development of new programs in response to growing needs for allied health manpower. At the outset, the school incorporated existing educational programs for hospital administration, medical technology, physical therapy, and radiologic technology and X-ray technicians. A program for nurse anesthesia was inaugurated as a separate department in 1969; an existing educational program in occupational therapy located on the Academic Campus was transferred administratively to the School of Allied Health Professions in 1970; and, also in 1970, a teaching program in patient counseling formerly based within MCV Hospitals was integrated with the school.

PROGRAMS

Graduate programs currently in this school and the degrees conferred on their graduates are:

DEPARTMENT OF MEDICAL TECHNOLOGY

Master of Science

DEPARTMENT OF OCCUPATIONAL THERAPY

Master of Science in Occupational Therapy

DEPARTMENT OF PHYSICAL THERAPY

Master of Science

DEPARTMENT OF HOSPITAL AND HEALTH ADMINISTRATION

Master of Hospital Administration

PHILOSOPHY

The faculty of the school is committed to offer, through the establishment and maintenance of rigorous standards of excellence, education that will prepare students for professional careers in the several allied health disciplines. Development of professional attitudes, emotional maturity, and ethical behavior in students are vital components of the educational process. It is essential that students gain a deep respect for the dignity of man and the *inherent rights* of patients and others who receive services. The programs are designed to include not only the development of skills to assure excellence in quality of health care, but also such factual knowledge and experiences that will provide the bases for continuing intellectual and professional growth.

Community services of the school and faculty include continuing education, con-

sultative resources, and participation in all pertinent areas of health care. An integral part of these efforts is to stimulate and sponsor research activities in the allied health disciplines represented within the school and to encourage interdisciplinary research.

FACILITIES

Departments and programs in the School of Allied Health Professions are presently housed in Randolph-Minor Annex, the MCV Hospitals-South and West, the Newton House, the Nursing Education Building, and the Tompkins-McCaw library. A multi-story educational building on the MCV Campus is now in the planning stage. This building will house several components of the School of Allied Health Professions, the School of Nursing, the School of Pharmacy, and the Department of Pharmacology. This facility will permit expanded enrollments in most departments and programs, and provide improved and enlarged educational and research areas.

ACCREDITATION

Virginia Commonwealth University and all its component schools are accredited by the Southern Association of Colleges and Schools, the general accrediting agency for colleges in the region. The School of Allied Health Professions is an institutional member of the American Society of Allied Health Professions, and the Virginia Association of Allied Health Professions. All of its programs are approved or accredited by the appropriate national professional or educational organizations.

GRADUATE COURSES IN ALLIED HEALTH PROFESSIONS (AHP)

Nearly all course offerings in the schools are provided by departments and programs; however, selected graduate courses considered applicable to many students in these programs have been assigned to the School of Allied Health Professions.

301 Interpersonal Dynamics and Patient Sensitivity. 3 lecture hours. 3 credits. II. A series of seminars covering a variety of patient feelings, reactions, and personality characteristics.

330 Special Topics. 1-4 credits. I, II, S. Prerequisite: permission of instructor. Interdisciplinary study through lectures, tutorial study, or independent research of selected topics not provided in other courses. Offered on undergraduate level.

530 Special Topics. 1-4 credits. I, II, S. Prerequisite: permission of instructor. Interdisciplinary study through lectures, tutorial study, or independent research of selected topics not provided in other courses.

573 Teaching in Health Professional Schools. 3 hours. 3 credits. I. Study of the relationships between allied health education and higher education in general, current essentials and proposed standards in education for the health professions, and theoretical approaches to the implementation of these essentials in both academic and clinical learning. Emphasis will be placed on modes of adapting to future needs of the professions and the role of graduate and continuing education in the professions.

574 Allied Health Education—Practicum. 1 lecture and 4 laboratory hours. 3 credits. I, II, S. Prerequisite: EDU 474. Medical technology, occupational therapy, and physical therapy sections. Preparation, presentation, and evaluation of selected educational experiences in the appropriate undergraduate program.

581 Administration in the Allied Health Professions. 3 lecture hours. 3 credits. I. Study of the health delivery systems, administrative processes and techniques, budgeting, and program development.

582 Supervision in the Allied Health Profession. 3 lecture hours. 3 credits. II. Study of the supervisory process and staff development, training in communication and interpersonal skills, and public relations within the health facility.

583 Supervisory and Administrative Practicum in Allied Health Clinics. 60 clinical hours. 1-9 credits. S. Section 01 MT, Section 02 PT. Prerequisite: permission of instructor. The course is designed for the student who will be assuming supervisory and administrative roles. Areas to be covered include clinical personnel management, budgeting and ordering of materials and equipment, consultation with physicians, developing and troubleshooting clinical methods, designing job descriptions, and implementation of quality control programs.

Courses offered by the School of Education on the Academic Campus are generally oriented to graduate students interested in teaching, administration, or supervision.

STUDENT PERFORMANCE AND BEHAVIOR

The goals and objectives of the School of Allied Health Professions and its compo-

nent departments and programs relate to the education of persons preparing for professional careers in the allied health disciplines. An integral requisite of each student and practitioner is an undeviating acceptance of a professional attitude and pride that will motivate him to adhere to a code of professional ethics and to develop fully his competencies for practice.

Thus, the suitability of student performance and behavior relating to these professions and to the consumers of health care is a paramount concern of the administration and faculty of this school. Standards of conduct are presented in the general information section of this bulletin and relate to the students in the School of Allied Health Professions. To assure a quality of educational and clinical preparation for its graduates, the following statement is also promulgated:

"If, in the judgment of the Faculty/Administration of the School of Allied Health Professions, a student is not considered suitable for emotional, professional or related reasons, the student's academic status may be appropriately altered."

If any questions arise regarding the standards of performance or behavior, it is the responsibility of students to apprise themselves of acceptable character and conduct requirements prior to matriculation in the designated department or program.

Department of Medical Technology

HISTORY

Medical technologists have been trained at MCV since 1932. However, the Department (formerly school) of Medical Technology was not formally established until 1952. The school began as a certificate and/or degree program, meeting the requirements of the American Medical Association as implemented through the Board of Schools of the American Society of Clinical Pathologists (ASCP). In 1961-62 the certificate program was discontinued. Upon completion of the course, the students are

awarded a Bachelor of Science in Medical Technology degree.

In 1967, a graduate program for medical technologists was begun. This program leads to a Master of Science degree, with majors in one of the four main disciplines of medical technology; namely, clinical chemistry, hematology, immunohematology, and clinical microbiology. Graduate studies in medical technology are offered for those who would become teachers and supervisors.

PHILOSOPHY

The medical technologist is in a unique position. The area of interest while predominantly intellectual, also requires specialized manual and technological skills.

The university medical center affords the most favorable environment to acquire this varied knowledge.

The faculty is available to provide expertise in all areas; the large hospital provides a wide spectrum of pathological conditions, and the library is able to fulfill all literature requirements.

Education in close proximity to that of the medical student, intern, and resident, as well as interaction with the other health-related professions gathered into the School of Allied Health Professions, introduces the student to his position as a member of the medical team.

GRADUATE PROGRAM

The Department of Medical Technology offers a program leading to a Master of Science degree in medical technology. It is designed to provide advanced theoretical and practical education to the individual whose aim is to become an educator, supervisor (administrator), or researcher in the field of medical technology. *Students* may specialize in one of the following disciplines: clinical hematology, microbiology, clinical chemistry, immunohematology, or instrumentation.

The core curriculum comprises courses in education, administration, and clinical instrumentation. This is in addition to the numerous basic science courses offered within the department or in other departments of the university.

ADMISSION REQUIREMENTS

In addition to the general requirements for admission to the university, the applicant must:

1. hold a baccalaureate degree;
2. be a registered medical technologist, MT (ASCP);
3. have a minimum of two years' experience in clinical laboratory science. It is recommended that at least one of these two years be in the area in which the student plans to specialize; and
4. take the Graduate Record Examination.

Any medical technologist who desires to advance his theoretical and practical knowledge may be admitted upon the recommendation of the faculty, as a special or conditional student, and enroll in any of the graduate courses offered within the university. Special or conditional students, however, cannot be considered for candidacy for the Master of Science degree until the full admission requirements are satisfied.

Application materials may be obtained from the Office of the Dean, School of Allied Health Professions, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 233, Richmond, Virginia 23298.

ACADEMIC REQUIREMENTS

At least one year of residence is required for the Master of Science degree. In practice, it has been found that two or more years of study usually are necessary to complete the requirements. The minimum course requirement is 24 semester hours, although ordinarily more will be recommended. All students must participate in the medical technology seminar (MET 590) for a minimum of four semesters.

Students who plan to teach or assume supervisory positions are required to take AHP 574 or 583.

All courses are selected and approved by the student's advisor. Although the plan of study depends on the student's needs and goals, instruction in each of the following areas is expected:

1. Career specialty. The department offers instruction in education, supervi-

sion and administration, and biomedical research. The student is expected to gain experience in at least one of these areas by way of specific theoretical and laboratory (practicum) courses.

2. Clinical science specialty. Students specialize in one of the following: clinical chemistry, clinical microbiology, hematology, immuno-hematology, or medical instrumentation.
3. Basic life sciences. As scientists, graduate students are expected to attain knowledge in the basic life sciences (biochemistry, cell biology, and physiology). This knowledge may be attained from specific courses or by extrapolation from other courses.

A graduate study conducted under the guidance of an advisor is reported in a thesis. The thesis must be presented in both written and oral form to a thesis committee composed of the student's advisor and two other members. The thesis committee will have at least one member from the department and one member from a department other than medical technology.

GRADUATE COURSES IN MEDICAL TECHNOLOGY (MET)

501 Instrumental Methods of Analysis I. 2 lecture and 4 laboratory hours. 2-4 credits. I. Prerequisite: permission of instructor. A study of modern research and clinical laboratory instrumentation and procedures. Principles, theory, and comparison of laboratory instruments will be discussed in detail along with the factors affecting their operation. Two credits will be given students upon successful completion of the lecture portion of the course. Laboratory exercises have been designed to demonstrate the practical applications of the instruments studied in the research and clinical laboratory. Two additional credits will be given to students who elect and satisfactorily complete this option. Areas to be covered include: spectrophotometry, fluorometry, flame emission photometry, and atomic absorption spectrophotometry.

502 Instrumental Methods of Analysis II. 2 lecture and 4 laboratory hours. 2-4 credits. II. Prerequisite: permission of instructor. A study of modern research and clinical laboratory instrumentation and procedures. Principles, theory, and comparison of laboratory instruments will be discussed in detail along with the factors affecting their operation. Two credits will be given students upon successful completion of the lecture portion of the course. Laboratory exercises have been designed to demonstrate the practical

applications of the instruments studied in the research and clinical laboratory. Two additional credits will be given to students who elect and satisfactorily complete this option. Areas to be covered include: electrophoresis, chromatography, particle counters, radioisotope counters, and clinical laboratory automation. MET 501 is not a prerequisite for MET 502.

505 Advanced Hematology. 4 lecture hours. 4 credits. I, II. To enable the student to understand the basis for special procedures used in hematology and their application in differentiating blood dyscrasias.

510 Interpretative Clinical Hematology. 2 lecture hours. 2 credits. I, II. The aim of this course is to present the principles of hematopoiesis and to study related pathological and pathophysiological correlation of hematological disorders.

580 Supervision and Administration in Medical Technology. 3 lecture hours. 3 credits. This course is designed for students who will be assuming leadership roles in medical technology. Special emphasis will be placed on the role of the medical technologist in education. Topics to be covered include: curriculum design, laboratory design, including teaching areas; budgeting, interviewing, ordering equipment and supplies, and requirements for accreditation of approved programs for MT, MLT, and CLA.

590 Medical Technology Seminar. 1 lecture hour. 1 credit. I, II. Presentation and discussion of current research and topics of interest by the departmental faculty, graduate students, and visiting lecturers.

650 Special Topics in Medical Technology. 1-4 credits. I, II. S. This course provides for lectures, tutorial studies, and/or library assignments in specialized areas not available in formal courses or research training.

690 Research in Medical Technology. 1-15 credits. I, II, S. Research leading to the M.S. Degree.

Descriptions of the following courses are found in other sections of this bulletin:

| | | | |
|----------------|--------------|----------------|--------------|
| BIS 521 | See page 91. | BIC 503 | See page 90. |
| AHP 573 | See page 23. | BIC 505 | See page 90. |
| AHP 574 | See page 23. | MIC 504 | See page 92. |
| AHP 581 | See page 23. | MIC 507 | See page 92. |
| AHP 582 | See page 23. | BIP 501 | See page 90. |
| AHP 583 | See page 23. | GEN 504 | See page 92. |
| HHA 647 | See page 37. | GEN 507 | See page 92. |
| ANA 514 | See page 89. | GEN 516 | See page 92. |
| BIC 501 | See page 89. | PIO 502 | See page 94. |

Department of Occupational Therapy

"Since the primary focus of occupational therapy is the development of adaptive skills and performance capacity, its concern is with factors which serve as barriers or impediments to the individual's ability to function, as well as those factors which promote, influence, or enhance performance.

"Occupational therapy provides service to those individuals whose abilities to cope with tasks of living are threatened or impaired by development deficits—the aging process, poverty and cultural differences, physical injury or illness, or psychologic and social disability."

(From Definition and Functions, American Occupational Therapy Association.)

HISTORY

The program in occupational therapy was initiated at Richmond Professional Institute in 1942.

In 1965 the graduate program leading to a Master of Science degree in basic professional education in occupational therapy was initiated. The School of Occupational Therapy became a department in the School of Allied Health Professions in 1970 with the creation of Virginia Commonwealth University.

PHILOSOPHY

The faculty of the Department of Occupational Therapy is concerned with improving the quality of occupational therapy professional services through education relevant to current consumer needs and the development of student attitudes of commitment to personal and professional competence. Research, community service, and continuing education are viewed as ways to improve professional services and at the same time enhance the quality of the educational program.

The department seeks to provide individualization of educational experiences through a professional curriculum. This curriculum emphasizes experiential learn-

ing and provides an integrated education organized around a human developmental frame of reference.

OBJECTIVES

To provide the student with the opportunity to become a competent registered occupational therapist through critical thinking and problem solving experiences.

To provide an environment for the student to develop respect for the dignity and basic needs of individuals throughout their life span as these may be met in present and future health care delivery systems.

To provide the student with the opportunity to develop skills necessary to evaluate and execute effective treatment in occupational therapy.

FACILITIES

The educational facilities of the Department of Occupational Therapy are located on the Academic Campus in the Raleigh Building, 326 North Harrison Street. The administrative offices are on the third floor of South Hospital, the southeast corner of Twelfth and Broad Streets. The department offices, some classes, and the Office of the Dean of the School of Allied Health Professions are located on the Medical College of Virginia Campus.

During the graduate program, field-work assignments are made for students in a wide range of clinics and agencies in the Richmond metropolitan area. A 24-week extended fieldwork requirement will be arranged in approved clinical education facilities throughout the United States.

ACCREDITATION

The graduate program to become an occupational therapist is accredited by the American Occupational Therapy Association Accreditation Committee in collaboration with the American Medical Association Council on Medical Education.

HONORS AND AWARDS

Ann W. Saxton Literary Award. A \$200 annual award is available to an occupational therapy student at VCU. The award is based on the presentation of a manuscript which

is, in the opinion of the faculty, worthy of publication in the *American Journal of Occupational Therapy* or a journal of a related science or a topic related to occupational therapy.

A. D. Williams Award. An annual award presented to the student who has achieved the highest academic average in each class.

PROGRAMS

Two courses of study are offered:

1. Master's degree program—This program leads to the Master of Science in Occupational Therapy degree and is designed for college graduates who wish to become occupational therapists. This program is two calendar years in length, including a thesis or project plus 960 clock hours of fieldwork experience. Twelve weeks of the fieldwork clock hours must be continuous.
2. A Master of Science degree program for those who are registered occupational therapists—This program is individually designed in special areas of concentration. A minimum of 30 semester hours including a thesis is required.

ACADEMIC REGULATIONS

To continue in good standing students must:

1. Maintain an overall grade point average of 3.0 in the graduate program. A student whose average falls below that point or who earns a grade of 'D' or 'F' may continue only with the recommendation of the departmental graduate committee.
2. Pay all fees.
3. Maintain personal attributes and behavior which are consistent with admission criteria.
4. Complete field work requirements to the satisfaction of clinical and academic faculty.

Although arrangements are made in advance, each graduate student is reviewed prior to placement in field work education. The student must have satisfactorily completed the courses prerequisite to that field work experience. He must also demonstrate

the maturity, stability, professional attitude, and behavior which are essential for him to benefit from, and perform adequately in the placement.

GRADUATE PROGRAM—BASIC PROFESSIONAL PROGRAM

The Department of Occupational Therapy offers a program leading to a Master of Science in Occupational Therapy degree for qualified students who have earned a bachelor's degree in a related field.

Admission Requirements

Admission to the graduate program in occupational therapy requires completion of a bachelor's degree from an accredited university or college. Applicants should have maintained a minimum grade point average of 2.5 based on a four-point scale. Exceptions to this standard may be made for applicants who present satisfactory evidence of their potential to undertake graduate study.

Applicants for this program should complete the following prerequisites prior to admission:

| | |
|---------------------|--|
| English | 6 semester hours |
| Biological Sciences | 6 semester hours (must include Human Physiology with lab; Human Anatomy with lab strongly recommended, but students without coursework in anatomy will be advised to do independent study) |
| Psychology | 12 semester hours (must include Developmental Psychology and Psychology of Personality) |
| Sociology | 6 semester hours |
| Statistics | 3 semester hours |

These are considered minimal prerequisites, and applicants are encouraged to pursue additional study in biology, psychology, and sociology. Also, coursework or the ability to perform and teach activity skills (such as arts and crafts, music, recreation, work, and homemaking) and experience in occupational therapy or human service agencies are desirable. Admission is selective, since the number of applicants exceeds

the number of students who can be enrolled.

Applicants for admission will be required to submit an official transcript from each institution attended, an application form and a non-refundable \$10 application fee, reference forms, and an official report of scores on the Graduate Record Examination Aptitude Test. The deadline for completed applications is February 1. After that date applications can be considered only if there is space available for additional students.

For further information and application materials, contact the Office of the Dean, School of Allied Health Professions, Virginia Commonwealth University, Medical College of Virginia, MCV Station, Box 233, Richmond, Virginia 23298.

CURRICULUM PLAN

The total program is planned for completion in two calendar years of full-time study and encompasses academic and field work education as well as a research project. Each academic session has as a prerequisite successful completion of all preceding academic work.

FIRST YEAR, SUMMER

| | | <i>Credits</i> |
|---------|-------------------------------------|----------------|
| BIO 565 | Functional Human Anatomy | 5 |
| BIO 529 | Neuroanatomy | 3 |
| OCT 500 | Basic Treatment Concepts and Skills | 2 |
| | | <hr/> 10 |

FIRST YEAR, FALL SEMESTER

| | | |
|---------|--|----------|
| OCT 505 | Development and Dysfunction I | 5 |
| OCT 507 | Treatment Theory and Practice I | 6 |
| OCT 509 | Activity Theory and Skills I | 2 |
| OCT 511 | Influences on Health and Health Care I | 2 |
| | | <hr/> 15 |

FIRST YEAR, SPRING SEMESTER

| | | |
|---------|---|----------|
| OCT 506 | Development and Dysfunction II | 5 |
| OCT 508 | Treatment Theory and Practice II | 6 |
| OCT 510 | Activity Theory and Skills II | 2 |
| OCT 512 | Influences on Health and Health Care II | 2 |
| | | <hr/> 15 |

SECOND YEAR, SUMMER

| | | |
|---------|------------------------|---|
| OCT 600 | Field Work Education I | 9 |
|---------|------------------------|---|

SECOND YEAR, FALL SEMESTER

| | | |
|---------|---|----|
| OCT 601 | Research Methods in Occupational Therapy | 3 |
| OCT 603 | Administration and Supervision of Occupational Therapy Services | 3 |
| OCT 650 | Special Topics in Occupational Therapy | 3 |
| OCT 691 | Research in Occupational Therapy .. | 3 |
| | | 12 |

SECOND YEAR, SPRING SEMESTER

| | | |
|---------|-------------------------------------|----|
| OCT 660 | Field Work Education II | 9 |
| OCT 692 | Research in Occupational Therapy .. | 3 |
| | | 12 |

GRADUATE COURSES IN OCCUPATIONAL THERAPY (OCT)

BIO 529 Neuroanatomy. 2 lecture and 2 laboratory hours. 3 credits. S. Prerequisite: BIO 305 or permission of instructor. A study of the morphology and functional aspects of the central and peripheral nervous systems of the human body.

BIO 565 Functional Human Anatomy. 3 lecture and 4 laboratory hours. 5 credits. S. Prerequisite: BIO 205 or equivalent. A study of the anatomy and kinesiology of the human body using prosected specimens and the dissected cadaver. Particular emphasis is placed upon the study of the extremities. Intended primarily for students in the Department of Occupational Therapy.

500 Basic Treatment Concepts and Skills. 1 lecture and 2 laboratory hours. 2 credits. S. Introduces important occupational therapy concepts: the influence of activity on health, the basic occupational therapy process, evaluation, motivation, and learning. Develops skill in observation and interviewing as data gathering methods.

505 Development and Dysfunction I. 5 lecture hours. 5 credits. I. A study of developmental processes and influences, from fetal stages through adolescence, in terms of neuromotor, sensory integrative, sociocultural, and psychological behavioral theories. Normal development is contrasted to deviations from the health continuum as seen in medical, educational, and community settings.

506 Development and Dysfunction II. 5 lecture hours. 5 credits. II. Starting with early adult years and covering the rest of the life span. Includes age-related and non-age-related disease and disability.

507 Treatment Theory and Practice I. 4 lecture and 4 laboratory hours. 6 credits. I. Application of the principles of developmental stimulation and developmental therapy will be explored to parallel OCT 505. Activities, materials, settings, and relationships which promote normal growth are studied and utilized in the field work phase, a major portion of this course.

508 Treatment Theory and Practice II. 4 lecture and 4 laboratory hours. 6 credits. II. Theory, evaluation, and remediation of deficits in motor, sensory, perceptual, cognitive, psychological, and social functioning related to adult development and dysfunction or unrelated to a specific age group.

509-510 Activity Theory and Skills I and II. 1 lecture and 2 laboratory hours. 2 credits. I, II. Analysis of student's activity history and skills in areas of play/leisure, self-care, homemaking, and work and development of skill in performing selected activities, including splintmaking. Emphasizes teaching, analysis, and therapeutic application of activities. Also stressed are evaluation and development of client's work, homemaking, and daily living skills.

511-512 Influences on Health and Health Care I and II. 2 lecture hours. 2 credits. I, II. The nature of health and illness, the sick role, health care organizations and occupations, organization and financing of health care, trends in health care, and current professional issues.

600 Field Work Education I. 9 credits. Twelve-week full-time experience in programs providing occupational therapy services.

Supervised field work experiences are arranged in various settings for the application of academically acquired knowledge. Placements include experiences in prevention, health maintenance, remediation, daily life tasks, and vocational adjustment. Field work settings may include hospitals, rehabilitation centers, school systems, community agencies, camping programs, penal systems, and the like.

In the event of failure, the course may be repeated only upon recommendation by the academic and clinical faculty. Field work must be completed no later than 24 months following completion of the academic phase.

601 Research Methods in Occupational Therapy. 3 lecture hours. 3 credits. I. Covers the steps in the research process: problem definition, literature review, research design and data collection appropriate to occupational therapy, data analysis and interpretation, and research reporting. Emphasizes action research, evaluation research, and the preparation of a proposal for a thesis or project. Students with prior course work or experience in research may be permitted to take an elective instead of this course.

603 Administration and Supervision of Occupational Therapy Services. 2 lecture and 2 laboratory hours. 3 credits. I. The management of human and non-human resources in the provision of efficient and effective occupational therapy services; the nature of formal and informal organizations, the administrative process, and administrative tasks. Includes supervision, consultation, and the planning of occupational therapy fieldwork education.

650 Special Topics in Occupational Therapy. 3 credits. I. Designed around the interests of students, faculty expertise, and availability and expertise of Richmond area occupational therapists or visiting lecturers.

Format may include intensive mini-courses or workshops, an advanced course, or independent study with some opportunity for election and development of knowledge and skills in a specialized area of occupational therapy.

660 Field Work Education II. 3 credits. II. Twelve-week full-time experience, or its equivalent, in programs providing occupational therapy services.

691-692 Research in Occupational Therapy. 6 credits. I, II. Completion of research or a demonstration or developmental project related to occupational therapy and a report on the background, design, and results of the study or project.

Department of Physical Therapy

HISTORY

The current graduate program in physical therapy, which was initiated in 1968 with one student, began to expand in 1971 with the appointment of a full-time director. Enrollment currently varies from 12 to 18 students.

PHILOSOPHY AND OBJECTIVES

In a world where knowledge is doubling every few years, continuing education has become a way of life for most professional people. Many of yesterday's truths have been disproven and tomorrow's truths are being generated in today's laboratories and clinics. Physical therapy, an integral part of the health care system, is involved both broadly and deeply in this atmosphere of change and growth. Expanding knowledge and skills in the basic and clinical sciences and changes in the needs and mandates of society have placed new demands and created new responsibilities for physical therapists.

These changes have not only altered the existing basic professional preparation programs but have also stimulated the development of a variety of new and innovative postgraduate and continuing education programs. The master's degree program is designed to meet the needs of many practicing physical therapists who want to increase their skills and competencies in specialized aspects of their profession. *The guiding principle of this program is*

flexibility which provides for adaptation to the specific interests and goals of the individual student. The student may elect courses from most of the graduate departments of both the MCV Campus and the Academic Campus of VCU (e.g. anatomy, physiology, health and hospital administration, psychology, education, etc.) in addition to courses from the graduate program of the Department of Physical Therapy in order to build a meaningful, integrated, individualized program of studies.

Prospective students are encouraged to have their goals clearly defined before they start a graduate program. Typical goals might include specialization as a clinician, educator, researcher, consultant, or administrator with expertise in a basic science or in a clinical specialty.

Areas of specialization have been developed in therapeutic kinesiology, teaching therapeutic exercise, general kinesiology and biomechanics, developmental disabilities, academic and clinical education, and organization and delivery of physical therapy services.

FUTURE PLANS, FACILITIES

In addition to the usual classroom facilities, the department is developing a kinesiological research laboratory with equipment for both bioelectrical and photographic studies. Graduate students interested in education do their teaching practicum in the undergraduate classes and laboratories and in the clinical departments of MCV Hospitals. A clinical specialty practicum may be individually arranged in appropriate facilities in or out of Richmond.

Present courses and facilities will be expanded as enrollment and student interests indicate a need.

ADMISSION REQUIREMENTS

1. All general requirements for admission as specified by the section in this bulletin on graduate admission to Virginia Commonwealth University.

2. Graduation from a physical therapy program approved by the American Physical Therapy Association (or, for foreign students, its equivalent as determined by the

Physical Therapy Graduate Program Admissions Committee).

TRAINEESHIPS AND ASSISTANTSHIPS

In the past, the department has been able to offer a limited number of federal traineeships (stipend, tuition, and fees) and clinical assistantships (salary). These will continue to be offered as funds allow. Interested students should make inquiries to the program director.

GRADUATE COURSES IN PHYSICAL THERAPY (PHT)

AHP 530 *Special Topics in Allied Health*. See page 23.

AHP 573 *Teaching in Health Professional Schools*. See page 23.

AHP 574 *Practicum in Allied Health Teaching*. See page 23.

AHP 581 *Administration in the Allied Health Professions*. See page 23.

AHP 582 *Supervision in the Allied Health Professions*. See page 23.

AHP 583 *Supervisory and Administrative Practicum in Allied Health Clinics*. See page 23.

501 *Electromyographic Kinesiology*. 2 lecture and 2 laboratory hours. 3 credits. I. The emphasis of this course is on the theoretical and practical aspects of the use of electromyography as a tool to observe human movement, normal and pathologic. The student will have the opportunity to consider the electronic, physiologic, and anatomic principles related to the appropriate selection of electromyographic techniques for the study of movement. Particular emphasis will be placed on data reduction methods and interpretation of data. The student will develop beginning skills in performing the techniques necessary for recording parameters involved in movement.

502 *Biomechanics*. 2 lecture and 2 laboratory hours. 3 credits. II. This course concerns the study of the effects of forces upon normal and pathologic human form and movement. Classroom and laboratory sessions are designed to guide the student in the use of the measurement techniques necessary to form a detailed picture of moving man viewed as a mechanical system. Particular emphasis is placed on the techniques of modeling, cinematography, and electrogoniometry.

506 *Therapeutic Kinesiology*. 2 lecture and 3 clinical hours. 3-4 credits. II. A study of motor behavior in both normal and pathological conditions. Reading and discussion of the basic literature of current

neurophysiological approaches to therapeutic exercise and an integration of these concepts into a comprehensive model of human movement.

520 *Clinical Specialty Practicum*. 60 clinical hours. 1-9 credits. I, II, S. Co-requisite: PHT 530. Prerequisite: appropriate courses in sciences basic to area of specialization. 1 credit per 60 clinical hours. Concentrated clinical experience in the student's chosen area of specialization under the guidance of an approved preceptor.

530 *Clinical Specialty Seminar*. 1-3 credits. I, II, S. Co-requisite: PHT 520. Individual paper dealing in depth with the history, current status, and problems in a given area of clinical specialization. It is anticipated that the student will identify several potential thesis topics in the course of preparing this paper.

540 *Special Topics in Physical Therapy*. 1-4 credits. I, II, S. Guided independent study of specific topics not discussed in other courses or discussed in less detail in other courses. Student's topic of desired study must be identified and approved prior to enrollment.

590 *Physical Therapy Seminar*. 1 lecture hour. 1 credit. II. Reports on current problems and issues in the field of physical therapy. May be repeated for a maximum of two credits.

591 *Current Problems in Physical Therapy*. 2 lecture hours. 1-2 credits. I. Readings, discussions, and reports on the current status of the profession, changing parameters of clinical practice and changes in the organization and delivery of direct and indirect patient care. A model for professional development is presented. May be repeated for one credit during second year of study.

690 *Research in Physical Therapy*. 1-15 credits. I, II, S. Research in preparation for the master's degree thesis.

Department of Hospital and Health Administration

HISTORY

Education in health administration at the Medical College of Virginia was initiated in 1949. Prior to the Master of Hospital Administration degree being first awarded in 1955, early graduates received a post-graduate certificate in hospital administration. The program was accredited by the Accreditation Commission on Graduate Education for Hospital Administration in 1956, the eighth program in the nation to be accorded this status. The program has

maintained full accreditation since that time.

In addition to the graduate program, the Department of Hospital and Health Administration now includes a Bachelor of Science in health care management degree, an active continuing education program, and a growing research program.

PURPOSES AND OBJECTIVES

The department's principal function is to provide high-quality education leading to careers in the administration of health organizations. Corollary functions are to sponsor research concerning the organization, administration, financing, and evaluation of health services and to serve the community—its people and institutions—through programs involving both faculty and students.

To provide clear direction in the performance of these basic functions, the faculty has adopted six long-range (three-five year) goals as follows:

- Provide high quality education in health administration for each of the department's students.
- Make a positive contribution to the basic education of other health professionals at MCV/VCU.
- Organize and conduct a purposeful research program.
- Sponsor high quality continuing education and public service activities aimed at identified needs in the health industry.
- Attain the administrative support and resources needed by the faculty to achieve departmental goals and objectives.
- Increase recognition for departmental excellence in education, research, and public service.

These long-range goals are being achieved through a management-by-objectives program which has been in operation since 1973. Through this process faculty, alumni, and students are jointly involved in selecting long- and short-range (fiscal year) goals and in developing plans to accomplish them.

FACILITIES

The Department of Hospital and Health Administration's graduate program is lo-

cated in Randolph-Minor Annex, an historic building located on the corner of College and Broad Streets on the MCV Campus. The department's undergraduate program is located on the fifth floor of the Nursing Education Building.

ANNUAL LECTURESHIPS AND ENDOWED PROFESSORSHIPS

The Charles P. Cardwell Lectureship Series was inaugurated and endowed by the department's alumni. It is held in conjunction with the annual meeting of the American College of Hospital Administrators. The series is coordinated by a standing committee of the Hospital and Health Administration Alumni Association.

Endowed professorships have been established in honor of individuals who have played vital roles in the development of the Medical College of Virginia. The Arthur Graham Glasgow Professorship of Hospital Administration was established in 1957 in honor of Dr. Glasgow who had shown such a vital interest in hospitals. The Glasgow Professorship is presently held by Dr. Lawrence Prybil, chairman of the department.

MASTER OF HOSPITAL ADMINISTRATION

The graduate program is designed to prepare individuals for entry-level administrative positions in hospitals, medical centers, and other complex health care organizations and agencies. It is also intended to provide a solid foundation for executive career development in health care administration.

The 1977-1978 curriculum requires a total of 56 semester hours to qualify for the M.H.A. degree. These requirements are completed during the 23 month period that includes four academic semesters on campus and a nine month administrative residency. During the residency, the student is responsible for completing a major management study project in addition to other requirements. The culmination of the program is a comprehensive examination taken at the end of the administrative residency period.

Most candidates for the M.H.A. degree

will be full-time students. However, a limited number of part-time students will be accepted as candidates for the M.H.A. degree. The part-time degree program is intended primarily for persons who are already employed in the health industry. The admissions standards and degree requirements for part-time degree candidates are the same as those for full-time degree candidates.

ADMISSION REQUIREMENTS FOR M.H.A. PROGRAM

Graduate courses in hospital and health administration are open to any person having the necessary personal and academic qualifications. There is a difference, however, between being permitted to register for a particular course and acceptance as a degree candidate. Students enrolled in the Department of Hospital and Health Administration are classified in full status, conditional status, or special status.

Students who have attained full status in the Department of Hospital and Health Administration must have met all admission requirements (see following sub-section). Students in full status are candidates for a M.H.A. degree. If an applicant offers qualifications which approximate the admission requirements for the M.H.A. degree, he may be admitted at the discretion of the faculty in a conditional status. Advancement to full status may be approved by the faculty when the student has satisfactorily completed one or more semesters of graduate studies. Students admitted on conditional status may be dismissed from the graduate program at the end of their first semester of graduate studies if they have not earned a 3.0 grade point average.

An individual who desires to enroll in one or more courses offered by the Department of Hospital and Health Administration but does not intend to work toward a degree offered by this department, may apply for admission as a special student. Admission in special student status is limited. Whenever enrollment must be limited, preference will be given to students who must take the course to meet degree requirements.

Students from other countries are encouraged to apply for admission to the

Department of Hospital and Health Administration. Foreign applicants, however, must meet all the regular requirements for admission, take the Test of English as a Foreign Language, and submit evidence of financial responsibility by indicating their source of required funds while at Virginia Commonwealth University.

Applications are encouraged from individuals of all undergraduate fields of study. The Admissions Committee places more emphasis on evidence of sound scholarship and growth potential than on the specific content of the educational program previously completed.

Although no specific undergraduate major is required, undergraduate preparation must include at least one college level course in accounting, economics, and statistics. In addition, a working knowledge of basic, college level algebra is a prerequisite for departmental courses in quantitative methods. Additional coursework in the management, social, and behavioral sciences will improve the applicant's preparation for the graduate program.

Virginia Commonwealth University is a state-supported institution, and preference is given to applicants with equal qualifications who are residents of Virginia. There is no quota established, however, for Virginia and out of state students.

To be considered for admission in full status and as a candidate for the M.H.A. degree, the applicant must meet the following minimum qualifications: (1) present evidence of personal achievement, scholarship, intellectual ability, and professional promise; (2) hold a baccalaureate or higher degree from a college or university which is fully accredited by the Association of American Universities or by a regional accrediting agency, or an acceptable equivalent; (3) have at least a 2.75 grade point average on a four point scale in his undergraduate work or present solid evidence that he can successfully pursue graduate study; and (4) attain a satisfactory score (at least 50th percentile) on the Graduate Record Examination Aptitude Test or the Graduate Management Aptitude Test (GMAT).

Requests for further information regarding admission requirements, standards, and

procedures should be sent to: Graduate Admissions Coordinator, Department of Hospital and Health Administration, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 203, Richmond, Virginia 23298.

PROGRAM OF STUDIES FOR M.H.A. DEGREE

A basic aim of the faculty in designing the curriculum for 1977-1978 was to strengthen the academic phase of the 23 month program by building a series of course sequences that are comprised of *foundations courses*, *required courses*, *elective courses*, and, finally two "*capstone*" courses: HHA 645, "Community Health Studies Seminar" which is a case-oriented, required course that culminates and integrates the four-semester on-campus phase of the curriculum and HHA 702, "Administrative Residency," a nine-month field experience that comprises the clinical phase of the curriculum.

The intent of organizing the curriculum into course sequences is threefold: first, to assist the faculty in structuring objectives and content for all courses in the curriculum; second, to assist students in selecting and timing their foundational and elective coursework; and, third, to gain more effective use of available faculty resources through collaborative planning with other university schools and departments.

Students in the M.H.A. program must satisfactorily complete a total of 56 semester hours. These courses may include one or more *foundation courses* because students must have proficiency in managerial accounting, finance, statistics, and management theory equivalent to that provided by BUS 608, 620, 624, and 641 before entering subsequent required courses. Therefore, depending upon his or her educational preparation and experience, entering students may be required by their faculty advisor to take some or all of these foundation courses early in their graduate program of studies. *Required coursework* ordinarily comprises 40 semester hours; however, depending on the student's educational background and experience, required courses may be waived with the joint

approval of the student's faculty advisor and the course instructor. *Elective courses* are selected on an individual basis by the student and his or her faculty advisor according to the student's career interests and educational needs.

The M.H.A. program of studies for 1977-1978 includes the following courses:

FIRST YEAR, SUMMER SEMESTER

| Required Courses | Credits |
|---|---------|
| HHA 602 Health Care Organization and Services | 4 |
| Foundation Courses | |
| BUS 608 Managerial Accounting | 3 |
| BUS 620 Financial Concepts of Management .. | 3 |
| BUS 624 Elements of Quantitative Management | 3 |
| Elective Courses | |
| HCM 523 Psychological Aspects of Illness and Disability | 3 |

FIRST YEAR, FALL SEMESTER

| Required Courses | Credits |
|--|---------|
| HHA 603 Health Care Organization and Administration (HHA 602 is a prerequisite) .. | 3 |
| HHA 606 Financial Management in Health Organizations (BUS 608 and BUS 620 or equivalent are prerequisites) | 3 |
| HHA 614 Health Planning | 3 |
| BUS 645 Operations Research (BUS 624 or equivalent is a prerequisite) | 3 |
| Total Required Hours | 12 |

| | |
|-----------------------------------|---|
| Foundation Courses | |
| BUS 641 Organization Theory | 3 |

| | |
|---|----------|
| Elective Courses | |
| HCM 500 Hospital and Medical Care Organization | 3 |
| HCM 523 Psychological Aspects of Illness and Disability | 3 |
| HHA 604 Health Economics | 3 |
| HHA 668 Independent Study in Hospital and Health Administration | variable |
| BUS 621 Advanced Financial Management ... | 3 |
| BUS 633 Problems in Labor Relations | 3 |
| BUS 637 Advanced Personnel Administration .. | 3 |

FIRST YEAR, SPRING SEMESTER

| Required Courses | Credits |
|--|---------|
| HHA 607 Advanced Financial Management In Health Organizations (HHA 606 is prerequisite) | 3 |
| HHA 611 Hospital and Medical Law | 3 |
| HHA 647 Organizational Behavior and Management in Health Organizations (BUS 641 or equivalent is a prerequisite) | 3 |
| HHA 662 Health Care and the Political Process .. | 3 |
| Required Hours | 12 |

Elective Courses

| | | |
|---------|---|----------|
| HHA 604 | Health Economics | 3 |
| HHA 615 | Health Services Program Planning (HHA 614 is a prerequisite) | 3 |
| HHA 652 | Comparative Health Systems | 3 |
| HHA 668 | Independent Study in Hospital and Health Administration | variable |
| HHA 698 | Thesis I | 3 |
| SOC 545 | Medical Sociology | 3 |
| SOC 699 | Professionals in Complex Organizations | 3 |
| NUR 620 | Methods of Research | 3 |
| ECO 610 | Managerial Economics | 3 |
| BUS 621 | Advanced Financial Management | 3 |
| BUS 622 | Investment Policies | 3 |
| BUS 634 | Advanced Labor Relations | 3 |
| BUS 671 | Advanced Marketing Strategy | 3 |

SECOND YEAR, SUMMER SEMESTER

| Required Courses | | Credits |
|------------------|---|---------|
| HHA 645 | Community Health Studies Seminar | 2 |
| HHA 658 | Hospital Personnel and Labor Relations | 4 |
| Required Hours | | 6 |

Elective Courses

| | | |
|---------|---|----------|
| HHA 608 | Seminar in Health Care Finance (HHA 606 and HHA 607 are prerequisites) | 2 |
| HHA 616 | Seminar in Applied Health Planning (HHA 614 and 615 are prerequisites) | 2 |
| HHA 617 | Health Facility Design and Construction (HHA 614 is a prerequisite) | 2 |
| HHA 668 | Independent Study in Hospital and Health Administration | variable |
| HHA 699 | Thesis II | variable |
| BUS 622 | Investment Policies | 3 |
| BUS 643 | Information Systems | 3 |
| BUS 661 | Information Systems for Operations and Management | 3 |

SECOND YEAR, ADMINISTRATIVE RESIDENCY

| | Credits |
|---------|--------------------------|
| HHA 702 | Administrative Residency |

ADMINISTRATIVE RESIDENCY

Nature of the Residency. The administrative residency is a requirement for all M.H.A. degree candidates. Six credits are assigned this clinical education phase. Approximately nine months are required in a residency program in an approved hospital or other health organization under the active direction and guidance of a qualified administrator (perceptor). Extended work may be required when additional time is deemed necessary by the faculty to ensure satisfactory completion of the program.

The residency provides the student an

opportunity: (1) to associate closely with a hospital or health care environment; (2) to work closely with the variety of persons in the health system; and (3) to be involved in all facets of hospital and health care administration.

Management Study. All M.H.A. degree candidates are required to complete an applied research investigation during the residency period. The subject of the study must be approved by the student's perceptor and faculty advisor. Upon completion, a formal report must be presented in writing and approved by the faculty.

A degree candidate may elect to write a thesis in lieu of (1) the project and (2) elective courses amounting to five credits. The thesis must demonstrate the student's ability to select a problem in his major field of interest and organize, analyze, and present the results of an investigation. The subject of the thesis must be approved in advance by the student's advisor and a committee of the faculty, both of whom must also approve the completed report. After the thesis has been accepted, the student must orally defend the report before a faculty committee.

Appointment to the Residency. The administrative residency follows the satisfactory completion of academic requirements; i.e., maintaining grade point average of 3.0 on a four-point scale for all graduate program coursework. The student must, in the judgment of the faculty, give evidence of sufficient maturity to constitute readiness for a clinical experience also.

The student, in consultation with the chairman of the department, his advisor, and preceptors in the affiliated institutions, participates actively in the selection of his residency assignment. When a definite interest in some type of special purpose hospital or health care institution exists, a tailored residency program may be established to strengthen those interests.

Appointment to residency is for a specified minimum period subject to extension when necessary. Announcement of appointment is made between February 1 and May 1 of the student's first year. Should a student fail to meet the requirements for entering his residency after the appointment

is made, he becomes ineligible for this assignment and the residency will be cancelled until such time as the deficiency is removed.

On-campus Commitments During the Residency. During residency, the student must attend regularly scheduled, on-campus seminars of the graduate program. During these seminars he may be expected to spend time with his advisor, discuss his project or thesis, and participate in varied educational activities.

Educational Objectives and Policies for the Residency. A complete discussion of departmental policies and educational objectives for the administrative residency are set forth in a separate document, the MCV/VCU Administrative Residency: Educational Objectives and Policies.

REQUIREMENTS FOR GRADUATION

To qualify for the M.H.A. degree, the student must meet the following requirements: (1) achieve a grade point average of 3.0 on a four-point scale for all graduate program course-work; (2) satisfactorily complete all requirements of the administrative residency including the second-year management study project or thesis; (3) pass a comprehensive examination administered near the end of the student's graduate program; and (4) in the judgment of the faculty, demonstrate sufficient maturity and development to constitute readiness to enter the profession of health administration.

Degrees are regularly conferred at the commencement exercises of the university in May. A candidate for a degree in May must be present to receive the degree unless he has been excused by the dean.

DEPARTMENTAL ACADEMIC POLICIES

Student policies and regulations are published in separate documents by the university and the Department of Hospital and Health Administration. These documents may be obtained by the applicant at the time of his interview at the MCV Campus.

GRADUATE COURSES IN HOSPITAL AND HEALTH ADMINISTRATION (HHA)

HCM 500 Hospital and Medical Care Organization. 3 lecture hours. 3 credits. I and II. Intended for students seeking degrees in disciplines other than health care administration and for special students who wish to learn about the health industry and health care organizations. Provides an overview of the structure and functions of the health industry. Examines the organization and operations of major health care organizations with particular emphasis on hospitals.

HCM 502 Management in Health Care Facilities. 3 lecture hours. 3 credits. II. Prerequisite: fundamentals of management. Study of recent developments in management theory and practice to develop a foundation of human, technical, and conceptual skills necessary for successful performance as a health care manager. The management process is examined with the focus of all course activities being management in the health facility.

602-603 Health Care Organization and Services, and Health Care Organization and Administration. 6 lecture hours. 6 credits. S, I. Examines the structure and functions of the American health care industry; examines the concepts and processes of health and illness; examines the institutional and individual providers of health services; and examines the organization, functions, and administration of hospitals, medical centers, and other major forms of health care organizations.

604 Health Economics. 3 lecture hours. 3 credits. I, II. Develops an understanding of: (1) economics as a managerial tool in making choices or decisions that will provide for an optimum allocation of limited health care resources; and (2) economics as a way of thinking about and approaching issues of public policy in financing and organizing health and medical services. Individual research on crucial or controversial economic issues in the health field.

606 Financial Management in Health Organizations. 3 lecture hours. 3 credits. I. Prerequisite: managerial accounting and finance. A theoretical and practical study of organization and functions of health care financial administration. Emphases are on institutional fiscal policies, accounting concepts and practices, internal and external controls, financial statistical reporting, and the use of financial data as management tools.

607 Advanced Financial Management in Health Organizations. 3 lecture hours. 3 credits. Prerequisite: HHA 606. Advanced practices of health care financial management. Emphasis on techniques to aid in financial decision making. Areas of investigation and study include analysis of financial statements, cost allocations, reimbursements, rate setting, budgeting, and capital financing.

608 Seminar in Health Care Finance. 3 lecture hours. 3 credits. S. Prerequisite: 607. Advanced studies of financial issues and the application of analytic tools in case studies and exercises. Designed to enhance and strengthen the knowledge and skills provided in the graduate program's foundation and required courses in accounting and finance.

611 Hospital and Medical Law. 3 lecture hours. 3 credits. II. Examines basic principles and practices of law affecting hospitals and medical practice: the legal aspects of patient care and treatment, medical services, and other hospital-patient related functions.

614 Health Planning. 3 lecture hours. 3 credits. I. Examines the planning process in the context of both the community and the institution. Considers the essential components of planning and the development of a sound structure for planning. Examines the legal, regulatory, economic, and human factors that influence the planning process.

616 Seminar in Applied Health Planning. 2 lecture hours. 2 credits. S. Prerequisite: HHA 614, 615, and 616. Provides students with opportunities to apply planning methodology, including problem definition, research design, information gathering, and evaluation, to actual health issues and problems.

617 Health Facility Design and Construction. 2 lecture hours. 2 credits. S. Prerequisite: HHA 614. Examines the essential elements and process of designing and constructing health facilities.

645 Community Health Studies Seminar. 2 lecture hours. 2 credits. Case studies and problem-solving exercises intended to integrate the knowledge and skills gained in prior coursework.

647 Organizational Behavior and Management in Health Organizations. 3 lecture hours. 3 credits. II. Prerequisite: BUS 641. Analysis of the current state of management study and practice with the objective of achieving a balanced development of both knowledge

and skills in solving the human problems of administration in health institutions. The managerial process is critically examined with emphasis on individual behavior and development, inter-group behavior, and behavior in the total organization.

652 Comparative Health Systems. 3 lecture hours. 3 credits. II. Examines the structure and functions of health care systems in nations other than the United States.

658 Hospital Personnel and Labor Relations. 4 lecture hours. 4 credits. S. Examines the procurement, development, and maintenance of an effective work force. An analysis of staff development; health and safety; wage and salary administration; employee services; and labor relations.

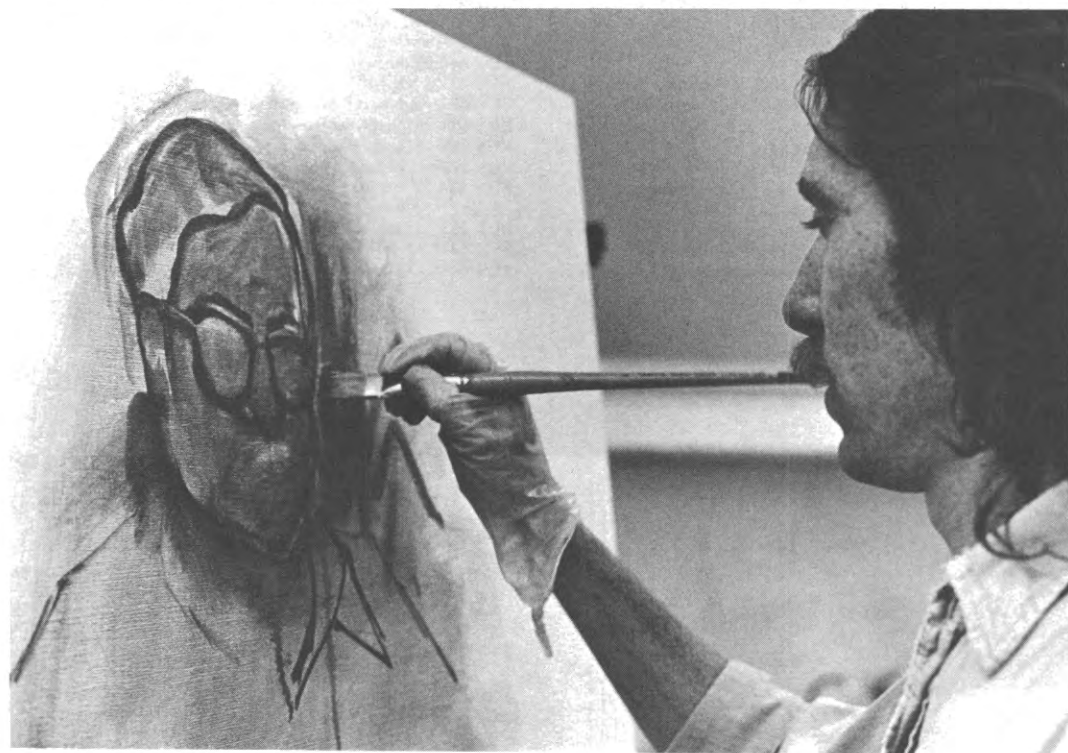
662 Health Care and the Political Process. 3 lecture hours. 3 credits. II. Examines the political process with particular emphasis on the impact of politics on health care. Focuses on current political issues in the health field, examining conflicts and anticipating effects on the health system.

698 Thesis I. 3 credits. II. Independent research study to provide the opportunity for the student to select, organize, and report the results of an investigation in a field of major interest.

699 Thesis II. 2 credits. S. Prerequisite: HHA 698. Continuation of research study begun in HHA 698.

See other sections of this bulletin for descriptions of the following courses:

- BUS 602 Advanced Managerial Accounting
- BUS 608 Managerial Accounting
- BUS 610 Managerial Economics
- BUS 622 Investment Policies
- BUS 624 Elements of Quantitative Management
- BUS 633 Labor Relations
- BUS 641 Organization Theory
- BUS 645 Operations Research



School of the Arts

The School of the Arts of Virginia Commonwealth University had as its beginning a sculpture course offered in 1926. In 1928 a one-faculty art department was formed under the direction of Miss Theresa Pollak and since that date has grown to its present organization, achieving national recognition through its quality program in the visual and performing arts.

In 1969 the Department of Dramatic Art and Speech and the School of Music, formerly independent units within Virginia Commonwealth University, were combined with the School of Art to form the present School of the Arts.

The School of the Arts is accredited by the National Association of Schools of Art and the National Association of Schools of Music and offers a rich and unique concept of graduate study for students in the fine and performing arts. It is the only state-supported professional school of the arts in the South and one of the few in the nation with a professional curriculum within a combined academic and professional environment. Located within an urban complex of higher education, students are provided with the advantages of comprehensive facilities as well as professionally competent faculty.

The rapidly growing graduate program

offers advanced degrees in seven departments in a number of academic and forming areas. The graduate degrees are:

- Master of Arts
- Master of Art Education
- Master of Fine Arts
- Master of Music
- Master of Music Education

The areas of study are:

- art education
- applied music
- art history
- church music
- crafts
- music composition
- music education
- music history
- painting and printmaking
- sculpture
- theatre

Beginning the academic year 1978-1979, the School of the Arts will implement a newly approved Master of Fine Arts in Design program with sub-specialties in interior environments, photography/film, and visual communications. Complete program material will appear in the next published University Graduate Bulletin. For preliminary information about the program of study and admission requirements write the Director of Graduate Studies, School of the

Arts, Virginia Commonwealth University, 325 North Harrison Street, Richmond, Virginia 23220.

The School of the Arts has a full-time faculty of 128 and a part-time faculty of 40.

GRADUATE STUDENT STATUS

The School of the Arts recognizes two categories of graduate students. The first is comprised of those who seek and who are accepted into the graduate degree programs of the various departmental areas. Students so recognized may be referred to as regular or continuing graduate students and may matriculate full-time or part-time except for the residence limitation discussed elsewhere in this bulletin. The second category is that of the special graduate student.

Holders of the baccalaureate degree from recognized institutions may enroll in graduate courses as special graduate students, but such courses are not applicable toward a graduate degree from this institution unless the student is accepted into a graduate degree program prior to the conclusion of the semester in which the student registered as a special graduate student. This consideration is intended solely to give those graduate degree applicants whose expectation of eventual acceptance into a graduate degree program is high, an opportunity to begin graduate work while their application material is being completed and processed.

Holders of the baccalaureate degree who wish to take graduate work for their own enrichment but who do not intend working in a graduate degree program toward a graduate degree are also referred to as special graduate students. Graduate courses completed, regardless of grade earned, by persons in this category will, under no circumstances be accepted as part of the requirements for a graduate degree at this institution. Students who have made application to a graduate degree program who cannot be accepted without remedial, additional, or provisional course work and who wish to come to this institution to take such course work are also referred to as special graduate students. Normally in the School of the Arts such work is taken at the

undergraduate level. Special graduate students must have written permission to enroll in undergraduate or graduate courses from the director of graduate studies and the chairman of the appropriate department.

ADMISSION PROCEDURE

Applications for admission to graduate degree programs in the School of the Arts may be obtained in person or by mail from the Office of Graduate Studies, School of the Arts, Virginia Commonwealth University, 325 North Harrison Street, Richmond, Virginia 23284.

ADMISSION REQUIREMENTS

A. For all degrees—M.A., M.A.E., M.F.A., M.M., and M.M.E.

1. Applicants should hold the baccalaureate degree from an accredited institution.

2. It is expected that applicants will have a 3.0 (B) average on the last 60 semester hours of undergraduate work.

3. The Miller Analogies Test¹ is required of all applicants except music. An entrance examination for music is included with the application material. Official results of the Graduate Record Examination may be substituted for the Miller Analogies Test score.

B. The prospective student should consult the appropriate section of this bulletin for additional admission requirements for a particular degree program.

ADVISING

All students accepted into advanced degree programs must make an appointment with the chairman of the department prior to registration for their first semester of course work. At this time each student will be assigned a permanent advisor who will structure the details of the student's program. Normally that advisor will be the chairman of the department, but he or she may be assigned an advisor more directly related to his area of concentration.

¹By appointment with the Department of Psychology, or at most other universities. The Miller Analogies Test is a high-level mental ability test which requires the solution of a series of intellectual problems in the form of analogies, mostly verbal.

Students are also encouraged to consult with the faculty members outside their major area and utilize facilities and equipment available in other departments.

REGISTRATION

Graduate art students are urged to plan their schedules and register during advance registration. Registration materials for students accepted into advanced degree programs are available through the registrar's office during the advance registration and registration periods. The advantage of advance registration is that of securing places in classes before they are closed and of obtaining proper counsel from advisors. All graduate students must see their assigned advisors for schedule planning and signature approval. New special graduate students or those contemplating registration as such must secure written permission to register from the director of graduate studies, the School of the Arts.

FINANCIAL AID

The School of the Arts awards a limited number of graduate teaching assistantships and graduate assistantships to full-time students. Applications should be made directly to the chairman of the department in which the applicant proposes to major.

When funds are available, the Office of Graduate Studies of the School of the Arts awards a limited number of scholarships to degree seeking graduate students. Announcements are posted and applications are available for these awards at the beginning of each academic year.

ADVANCE DEGREE CANDIDACY

Students seeking an advanced degree from the School of the Arts must apply for advanced degree candidacy during or after the completion of the first nine semester credits of graduate work. Applications for candidacy must be made prior to the completion of 16 semester credits. Applications for candidacy are made by form (2.1)²

²This procedure must be done by the student before November 1 of the fall semester or before March 1 of the spring semester.

which is available in the Office of Graduate Studies, School of the Arts. There are two criteria for admission to candidacy. These are (a) certification by the department in which the applicant is matriculating that the applicant has met departmental expectations and (b) the attainment of the minimal 3.0 (B) average. Ordinarily the department will arrange an examination and/or review of creative work or performance as the basis of its judgment. Upon the successful termination of course work in which the minimum of nine credits is taken and upon certification by the department involved that the student is prepared adequately to continue his degree program, the School of the Arts will admit the student to candidacy. Admission to degree candidacy is not an automatic process, but rather the application for candidacy is approved by the department only after careful evaluation of all pertinent factors.

Students who are found inadequately prepared to continue their graduate programs will be advised to supplement the program minima with additional course work and candidacy will be suspended until the supplemental program requirements are met. Students whose tests, grade point average, and/or creative work demonstrate conclusively no likelihood of a successful completion of a graduate degree program will not be admitted to candidacy by the School of the Arts. Admission to an advanced degree program does not constitute admission to advanced degree candidacy.

SCHOOL OF THE ARTS RESIDENCY REQUIREMENTS

Candidates for the degrees of Master of Arts (M.A.) and Master of Fine Arts (M.F.A.) must complete a minimum of one half of their degree program semester hour credits within one calendar year, either at the beginning or toward the end of their program of study.

Candidates for the degree of Master of Music (M.M.) and Master of Music Education (M.M.E.) are expected to complete all degree requirements within five years from the date of admission to graduate study.

ADVANCED DEGREE REQUIREMENT

1. Candidates must achieve no less than a "B" in each major course and a "B" average in the degree program as a whole.

2. A maximum of six graduate credits may be transferred from other accredited institutions and applied to any of the eight graduate degree programs in the School of the Arts upon approval by the director of graduate studies. Credits earned at other institutions or at Virginia Commonwealth University prior to the applicant's acceptance in a graduate degree program at Virginia Commonwealth University may not be transferred unless the applicant was a candidate for a graduate degree in an accredited graduate program.

3. A thesis is a requirement for all advanced degree programs in the School of the Arts except for the M.F.A. in the visual arts and the M.M.E. in music. The thesis is undertaken and developed in the context of the course ART 701 and carries from one to six credits. Depending on the discipline involved, the thesis may be essentially scholarly or creative in content and form. In either instance, the written thesis or the thesis statement (when the thesis involves creative works or performance) is done in a form that can be retained by the university. A thesis proposal must be submitted and approved by the chairman of the department and a thesis committee appointed before the candidate enrolls in ART 701. The thesis committee is composed of the candidate's thesis advisor, a departmental reader, and the director of graduate studies.

After enrolling in ART 701, the candidate should obtain a copy of *The Preparation of Thesis* from the Office of Graduate Studies. This information sheet describes the stages in submission of thesis to the candidate's committee, the proper typing paper and reproduction process, the stylebook to be used, binding information, etc. After the thesis has been submitted in its final form and approved by the candidate's committee, the candidate is asked to select a time and place appropriate to his committee for the final examination. This examination, which includes a defense of the thesis, is oral in nature. At the conclusion of the successful final examination, the candidate's thesis

committee signs the copies of the thesis and assigns a grade for it (ART 701). The candidate then delivers the necessary copies of the thesis to the Office of Graduate Studies for the dean's signature and binding by the library. The library of Virginia Commonwealth University receives two copies, the Office of Graduate Studies receives one copy, and the department involved receives one copy. The Department of Music does not require a thesis copy.

4. An exhibit or performance, adequately documented, is required of every candidate for the M.F.A. degree in crafts, painting/printmaking, and sculpture. The candidate for the M.F.A. degree in crafts must present a cumulative exhibit of work near the end of the program of study.

5. An approved research report is required for the M.M.E. degree in lieu of thesis.

THE SCHOOL OF THE ARTS LIBRARY

The School of the Arts Library, located in the Pollak Building, has a collection of more than 175,000 slides and an extensive collection of exhibit catalogs from various museums and galleries. There is also a working collection of current art publications and magazines.

Virginia Commonwealth University is a short distance from Washington, D.C., Baltimore, Philadelphia, and New York City and the museums, libraries, and research facilities in these urban areas.

GRADUATE COURSES IN ART

530 Guided Study Abroad. Semester course. 1-6 credits.

601-602 Seminar in Art. Continuous course. 3 credits. Discussion and research in the visual arts providing experience and involvement in the various studio areas for students not concentrating in these areas.

509, 510; 609, 610 Individual Projects/Field Work. Semester courses. 1-6 credits. By appointment with director of graduate studies after approval by department chairman. (Obtain individual research project form from the director of graduate studies prior to enrollment.) Individual work for graduate students.

680 Methods of Art Research. Semester course. 2

credits. Review of selected research methods relevant to the composition of a thesis in the student's master's degree area. Preparation of a proto-thesis concludes course work.

701 Thesis. Semester course. 1-6 credits. By appointment with director of graduate studies after approval by department chairman and review of candidate's record. (Obtain thesis plan approval form from director of graduate studies prior to enrollment.)

705, 706 Research in the Arts. Semester courses. 3, 6 credits. By appointment with director of graduate studies after approval by department chairman. (Obtain individual research project form from the director of graduate studies prior to enrollment.) Individual research for graduate student.

Department of Art Education

The Master of Art Education program attempts to expand and further refine each M.A.E. student's ability, knowledge, and attitudes in order to provide the profession with more effective art teachers, coordinators, supervisors, and other educational specialists in the arts.

PROGRAM DESCRIPTION

The M.A.E. program is structured on an individualized base rather than on a prescribed program of graduate studies. To benefit from the program's flexibility, each M.A.E. student must assess his or her own educational needs and professional goals. From a personal assessment, the formative and summative evaluations from graduate coursework, and with a graduate advisor's professional assistance, the M.A.E. student gains the opportunity and the responsibility to help determine a viable structure for the content and sequence of a personally relevant program of graduate studies.

Such a program can utilize the collective expertise of the art education faculty as well as appropriate community resources. Graduate coursework, therefore, could include both on-campus and off-campus involvement.

Opportunities for personal growth through the M.A.E. program also include the rich resources of other university graduate departments in the visual and performing arts, education (including supervision, administration, and special

areas), the natural and social sciences, and the humanities.

Alternative approaches to traditional thesis methods are also encouraged with the M.A.E. program.

ADMISSION REQUIREMENTS, M.A.E.

In addition to the admission requirements on page 40, applicants in art education must have completed a minimum of 36 semester hour credits in studio art at the undergraduate level and meet state certification requirements prior to completion of graduate studies at this institution. It is desirable for applicants to have had at least two years of teaching experience prior to beginning graduate studies.

DEGREE REQUIREMENTS, M.A.E.

| Program Pattern | Credits |
|-------------------------------|-----------|
| Art Education Electives | 12 |
| Approved Electives | 18 |
| Issues and Methods | 3 |
| Thesis or Project | 3 |
| TOTAL | 36 |

A thesis or project problem may develop from graduate coursework or professional involvement. These may be explored by: descriptive research, historical research, empirical/statistical research, design of learning packages, philosophical study, curriculum development, or action research.

GRADUATE COURSES IN ART EDUCATION (AEN)

501-502 Concepts in Art Education. Continuous course; 1 seminar and 4 studio hours. 3-3 credits. A sequence of studies organized around six major components: communications, expressive media, conceptual expression, teaching strategies, teacher affective attributes, and self-managing abilities.

508 Two Dimensional Art Experiences. Semester course; 2 seminar and 3 studio hours. 3 credits. The course explores the media, techniques, and concepts of drawing, painting, and printmaking. Not offered for credit to art majors.

509 Three Dimensional Art Experiences. Semester course; 2 seminar and 3 studio hours. 3 credits. Exploration of sculptural concepts with three-dimensional materials such as wood, metal, clay, fibre, plaster, plastic, and glass. Not offered for credit to art majors.

520 Teaching Concepts Through the Arts. Semester course; 1 lecture, 1 seminar, and 3 studio hours. 3 credits. Students will investigate and compare traditional and contemporary patterns of expression; develop experiential techniques for teaching concepts; and participate in a series of activities which reveal relationships among the arts and other subject areas. Seminars will include guests from the visual, performing, and literary arts. Open to all graduate students.

540 Topics in Art Education. Semester course, variable credits from 1-3. May be repeated for a maximum of 9 credits. The course will explore selected topics of current interests or needs relative to art education. See schedule of classes for specific topic to be offered each semester.

600 Seminar: Problems in Art Education. Semester course; 3-6 lecture hours. 3-6 credits. Oral and written reports upon problems encountered by members of the seminar in their own art teaching. Group discussion of reports with the instructor as moderator.

601 Art for Elementary Classroom Teachers. Semester course; 2 lecture and 2 studio hours. 3 credits. The nature of art and its function in the lives of individuals and society will be explored in addition to an emphasis upon relevant objectives, materials, and approaches in guiding the artistic expression of children at the elementary school level. Not offered for credit to art majors.

611, 612 Art Education Theory. Semester course; 3 lecture hours. 3, 3 credits. Review and analysis of significant writings and research in art education and the assessment of its pragmatic import.

650 Art for the Exceptional Learner. Semester course; 2 lecture and 3 laboratory hours. 3 credits. A study of exceptionality, including handicapped, aged, gifted, and talented or other exceptional individuals, in terms of participation in and appreciation of the visual arts. Course to include practicum and field experiences.

652 Art Supervision and Administration. Semester course; 3 lecture hours. 3 credits. Exploration of the duties and responsibilities of the public school art supervisor and administrative positions in art education within various organizations or institutions.

660 Issues and Methods of Research in Art Education. Semester course; 3 lecture hours. 3 credits. Readings and discussions of studies in art education and related research emphasizing possibilities for implementation by art teachers. Methods of research in the field will be reviewed and sample research proposals will be developed by the students.

665 Curriculum Development and Evaluation. Semester course; 3 lecture hours. 3 credits. May be repeated for a maximum of six credits. A review of curriculum development including: needs assessment, determination of goals and objectives, curriculum writing, evaluation, and feedback processes. A variety of

theoretical approaches in the visual arts are studied and curriculum models are developed and analyzed within the class.

670 Media in Art Education. Semester course; 3 lecture hours. 3 credits. Examining the influence and implications of technology in art education through participation in creative learning processes.

680 Teaching Laboratory. Semester course; 3 lecture hours. 3 credits. Observations and experimental teaching experiences with children in art. Group discussions and evaluation of ideas, objectives, and methods.

Department of Art History

A candidate for the Master of Arts degree in art history will have the opportunity to broaden his or her general awareness of our visual heritage while also being trained in the formal approaches to art historical literature. Expertise will be developed in the areas of connoisseurship, style analysis, symbol interpretation, and the understanding of media. The philosophical aspects of art history, such as aesthetics and the critical analysis of thought, are considered basic to the program. Individual research is encouraged through seminars and the writing of a thesis which makes an original contribution to the field.

It is an outstanding and notable distinction that the school is located in an urban environment with rich cultural facilities. A museum training program in coordination with local museums has become an integral part of the departmental offerings. Students may study the conservation of art, as well as curatorial and administrative aspects.

Studies abroad are available through university sponsored tours of Europe and Asia.

ADMISSION REQUIREMENTS, M.A.

In addition to the School of the Arts admission requirements shown on page 40, applicants must have completed a minimum of 21 undergraduate semester hours in art history and an additional 15 semester hours in humanities courses such as foreign language, history, philosophy, religion, or studio art.

DEGREE REQUIREMENTS, M.A.

| Program Pattern | <i>Credits</i> |
|-------------------------------------|----------------|
| Art History | 21 |
| Approved Electives | 6 |
| Aesthetics and Arts Criticism | 3 |
| Methods of Arts Research | 2 |
| Thesis | 6 |
| TOTAL | 38 |

Specific Degree Requirements

Degree candidates must have a reading knowledge of at least one modern foreign language (French, German, Italian, or Spanish). This requirement may be fulfilled after admission, but prior to the final oral examination. The student has the option of taking the Graduate School Foreign Language Test of the Educational Testing Service or an examination administered by the university language department.

GRADUATE COURSES IN ART HISTORY (ARH)

501 Italian Painting of the Renaissance. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. Detailed consideration of the great masters of painting from the thirteenth through the sixteenth centuries.

502 Architecture in Twentieth Century Richmond. Semester course; 2 lecture hours. 2 credits. An investigation in class and at actual sites of the architectural currents in Richmond since 1900 and their relation to national movements in building. (Offered summer session 1977 only.)

503 Modern Sculpture. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. The evolution of twentieth century sculpture considering major movements and artists.

506 Modern Painting. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. An analysis of the major movements in twentieth century painting.

507, 508 Museum Methods. Semester courses; 3 lecture hours. 3 credits. Prerequisite: consent of Department of Art History. Introduction to the major aspects of museum administration. Lectures by museum personnel and workshops in a variety of museums. A related research project is required of graduate students.

509 Film Theory. Semester course; 3 lecture hours. 3 credits. Theories and criticism dealing with the medium, form, function, and psychology of film.

Students will examine the medium through readings and discussions of such film theorists and aestheticians as Munsterberg, Eisenstein, Arnheim, Bazin, Kracauer, Burch, and Langer as well as through a comparison of film and the other arts.

512 African and Oceanic Art. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. A study of the artifacts of some of the major art producing tribes of Africa and Oceania.

514 Gothic Art. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. Origins and developments of the Gothic style with emphasis on the architecture and sculpture of France.

515 Afro-American Art. Semester course; 3 lecture hours. 3 credits. Prerequisite: advanced standing. A study of the art forms produced by Americans of African origin from seventeenth century to the present with an emphasis on contemporary trends in black art.

516 The High Renaissance. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. Intensive consideration of the great masters of Italian art in the early sixteenth century.

525-526 Seminar in Contemporary Painting. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: ARH 325-326 or its equivalent. A seminar dealing with a problematic approach to the arts with emphasis on painting from 1940 to the present.

528 The Art of Southeast Asia. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. The art of Burma, Malaya, Thailand, Cambodia, Indochina, and Indonesia.

532 Film Seminar. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 307, 308, or background in history of the film. A study of the auteur theory and criticism of representative films of great directors. Directors and films will vary from semester to semester.

533 Early Indian Art. Semester course; 3 lecture hours. 3 credits. Prerequisite: general background in art, history, or religion of the area. The Indus Valley civilization through Maurya, Sunga, Kushana, Andhra, Gupta, and Pallava periods.

534 Later Indian Art. Semester course; 3 lecture hours. 3 credits. Prerequisite: general background in art, history, or religion of the area. The Chalukya, Chola, Raiput dynasties, early Islamic, and Moghul periods through British India.

536 Eighteenth Century Art and Architecture. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. An evaluation of European art of the eighteenth century with in depth study of key monuments and major movements.

537-538 Art in the Nineteenth Century. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. An evaluation and analysis of the visual arts in the nineteenth century. Special emphasis will be given to the cultural and industrial changes, their influences upon the arts, and the development of modern art.

539 Seventeenth Century Art and Architecture. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 103, 104, or AFO 105-106. An evaluation of European art of the seventeenth century with in depth study of key monuments and major movements.

540 Seminar: Theories of Art History. Semester course; 3 lecture hours. 3 credits. Studies of and individual research in writings on the history of art, considering biographical, iconographical, cultural, philosophical, and theoretical approaches in writing about art and history.

541, 542 Seminar in Contemporary Sculpture. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: background in the art of the period. A forum for consideration and discussion of the more recent developments in the field. A special project will be required of the graduate student.

602 American Architecture Since 1865. Semester course; 3 lecture hours. 3 credits. A study of American architectural forms from the Civil War to the present, with emphasis upon the works of Louis Sullivan and Frank Lloyd Wright.

603 Seminar in Gothic Sculpture. Semester course; 3 lecture hours. 3 credits. Investigation and study of special problems of Gothic sculpture in Europe.

605 Seminar in Contemporary Art. Semester course; 3 lecture hours. 3 credits. Analysis of contemporary creative expression in painting, sculpture, and architecture from 1900 to the present.

606 Buddhist Art and Iconography. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Seminar: research into the origins and expansion of Buddhist art in Asia.

608 Seminar: Gupta Period. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 203, ARH 433/533, or equivalent. Intensive investigation of architecture, sculpture, and painting of the Golden Age of Indian Art.

611 Early Christian and Byzantine Art. Semester course; 3 lecture hours. 3 credits. The development of architecture, sculpture, painting, and minor arts in both the East and West.

612 Romanesque Art. Semester course; 3 lecture hours. 3 credits. The study of architecture, sculpture, and painting in central and northern Europe during the early Middle Ages.

614 Evolution in the Arts. Semester course; 3 lecture hours. 3 credits. Seminar: A study, analysis, and re-evaluation of formal relationships in the arts within the context of the history of human culture.

615 Studies in Christian Iconography. Semester course; 3 lecture hours. 3 credits. Seminar: The study of meaning in the visual arts of Europe from the late Middle Ages to the Neo-Classical period. Students will analyze special themes of a Christian or Classical derivation and study major cultural shifts within a broader historical perspective.

617 Hindu Art and Iconography. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Seminar: research into the origins and expansion of Brahmanical Hindu art in Asia.

621 Aesthetics and Art Criticism. Semester course; 3 lecture hours. 3 credits. Evaluation and analysis of contemporary aesthetic theories and art criticism and their relationship to modern art.

627 Museum Internship. Semester course; 9 to 18 studio hours. 3 to 6 credits. May be repeated with changing content to a maximum of 12 semester credits. Prerequisite: ARH 507, 508, and permission of chairman of the Department of Art History. Field work in a local or regional museum.

631 Museology Seminar. Semester course; 1 lecture hour. 1 credit. Seminar involving museum experts with discussion of museum philosophy, connoisseurship, preservation of art objects, and curatorial problems.

633 Seminar: Advanced Topics in Art History. Semester course; 3 lecture hours. 3 credits. A study of special issues, formal and stylistic problems, or research in a particular field of the arts. Topic to be announced.

Department of Crafts

The Department of Crafts offers the M.F.A. degree in six disciplines: furniture design, ceramics, jewelry, metalworking, textiles, and glassworking.

Graduate enrollment is limited in each specified area of concentration. As few as three students are permitted in graduate furniture design, as many as seven or eight may be enrolled at any given time in ceramics. The department has the philosophy that adequate learning experiences can only be gained if the student has adequate studio space and faculty consultation time. The successful candidate for the M.F.A. degree is adequately prepared for either a teaching career or self support as a designer craftsman.

The M.F.A. program provides a great deal of flexibility in course selection. The twenty elective credits are chosen to supplement and enhance the candidate's major field of concentration.

ADMISSION REQUIREMENTS M.F.A.

In addition to the School of the Arts admission requirements shown on page 40, applicants in painting and printmaking must have completed a minimum of 36 semester hour credits in studio art at the undergraduate level.

DEGREE REQUIREMENTS, M.F.A.

| Program Pattern | Credits |
|--------------------------|---------|
| Studio Major | 24 |
| Approved Electives | 20 |
| Graduate Seminar | 4 |
| TOTAL | 48 |

Each student begins the program by immediately enrolling in those courses directly related to his or her major. Faculty critiques are held weekly in respective studios with one major review of progress held by the entire department faculty each semester. Semester reviews are attended by all candidates currently enrolled in the department.

The graduate student is required to participate in a departmental seminar for four semesters. Seminar content is topical with a core of study directed toward the presentation and documentation of the candidate's graduate show.

The candidate for the M.F.A. degree in crafts must present a cumulative show of work near the end of the program of study. The show must have the approval of a simple majority of the graduate faculty for the degree to be awarded.

GRADUATE COURSES IN CRAFTS (CRA)

546 Kiln Design. Semester course; 3 lecture hours. 3 credits. Study and experimentation in the factors involved in the design, construction, and operation of ceramic kilns.

547 Ceramic Technology. Semester course; 3 lecture hours. 3 credits. Study of ceramic materials through calculation and experimentation.

590 Special Topics and Practicum. Semester course; 1-3 credits. May be repeated for a maximum of 6 credits. Prerequisite: permission of instructor: A topical seminar/workshop offered in a variety of craft subjects or issues not included in the regular curriculum. See schedule of classes for particular topic or topics to be covered each semester.

593, 594, 693, 694 Graduate Seminar. Semester courses; 1 lecture hour. 1 credit. A weekly series of topical discussions dealing with contemporary issues in the arts as they affect the craftsman. Faculty, students, and, as appropriate, visiting lecturers will participate.

601, 602, 603, 604 Metal or Jewelry. Semester courses; 3, 6, or 9 credits. Hours to be arranged. Personal investigation of materials, processes, and attitudes relating to the creative production of metal and/or jewelry forms.

621, 622, 623, 624 Furniture Design. Semester courses; 3, 6, or 9 credits. Hours to be arranged. Design, research, and experimentation in wood and varied materials, relating to a body of work demonstrating the student's mastery of material.

641, 642, 643, 644 Ceramics. Semester courses; 3, 6, or 9 credits. Hours to be arranged. Problems in the design and production of functional and non-functional ceramic objects as well as study of experimentation in ceramic technology and kiln design.

651, 652, 653, 654 Glassworking. Semester courses; 2 lecture, 3 or 12 studio hours. 3 or 6 credits. Prerequisite: permission of instructor. Investigation of and experimentation with the ideas, material, and processes relative to the production of glass forms.

661, 662, 663, 664 Textiles. Semester courses; 3, 6, or 9 credits per semester. Hours to be arranged. Work in contemporary and traditional textile techniques.

Department of Music

The Department of Music views the graduate student as a sensitive musician who brings with him a particular educational background and a variety of life experiences. He has defined for himself his professional and artistic goals. The graduate program is a collaborative effort among the students and the faculty to help each student achieve these goals.³

The music curriculum allows individual uniqueness and expertise. Its flexibility accommodates the personal aspirations of the student while it *emphasizes quality* musicianship. At VCU a great deal is

³From a statement by the Graduate Composition Seminar, Summer, 1973.

expected of graduate level musicians, and the atmosphere in which they work is both provocative and challenging.

Each student is encouraged to define his personal objectives within a music-centered life style, to express himself musically, and to discover his most creative self. His resources include the expertise of 21 full- and 34 part-time and adjunct faculty, the environment created by our performing organizations, and the excitement generated by other talented student musicians. Within this community of musicians are five composers in residence, artist-performers including principal performers of the Richmond Symphony and leading musicians from Washington, and educators and musicologists who have authored articles and professional publications. The faculty include persons who serve on national professional committees and have made presentations at national conventions in their areas of specialization.

As musicians, all students perform regularly in recitals and concerts. These performances include more than 130 public concerts presented each year as well as studio and departmental recitals. VCU student and faculty composers are frequently featured in works for traditional instrumentation and/or our four synthesizers. Participating in the VCU musical community means involvement in a musically rich environment—studio lessons with artist-teachers, small classes, independent study, and participation and touring with performing organizations and ensembles. Specialized resources include the curriculum lab for music education and well-equipped electronic music studios.

ADMISSION REQUIREMENTS

In addition to the School of the Arts admission requirements shown on page 40, applicants in music must meet the following requirements.

An audition and entrance examinations covering relevant musical and educational competencies are required. Proficiency in piano, graded to the pianistic needs of the various fields of concentration, is also expected and will be assessed prior to granting of candidacy. Appointments for all

entrance examinations are arranged through the chairman of the Graduate Faculty Committee of the Department of Music. Audition tapes may be sent by out-of-state applicants.

In addition, a portfolio of compositions must be submitted by all applicants to the M.M. program in composition. The portfolio of compositions should contain a minimum of six works each approximately five minutes in length which demonstrate proficiency in the following areas:

- 1) large classical form
- 2) non-serial 20th century techniques
- 3) serial techniques
- 4) electronic studio techniques
- 5) orchestration (minimum of eight instruments).

A high level of craftsmanship must be exhibited in at least three of these areas. A student inexperienced in any of these areas must demonstrate competence in them at the time of his application for candidacy. Tape recordings of electronic compositions should be submitted by applicants in this area.

Note: These requirements are in addition to the audition and musicianship exam.

Applicants for the M.M.E. degree must meet state certification requirements prior to completion of graduate studies at this institution. It is desirable for applicants to have had at least two years of teaching experience prior to beginning graduate studies.

Language requirements. A reading knowledge of foreign language(s) is required for the following curricula: church music (German required for admission to candidacy); music history (one language required for admission to candidacy, one additional language for graduation). The student has the option of taking the Graduate School Foreign Language Test of the Educational Testing Service or an examination administered by the department.

PROGRAM AND DEGREE REQUIREMENTS

Applied Music (Master of Music)

The applied music faculty is comprised of artist-teachers who remain active profes-

sional performers, including musicians from the Richmond Symphony Orchestra, the National Symphony, the Contemporary Music Forum, Wolf Trap Farm Park, and principal freelance performers in the Metropolitan D.C. area. Vocal faculty include soloists with major orchestras, operatic and concert singers, coaches, and conductors. Performance opportunities include opera, oratorio, musical theatre, and appearances as soloists with the many regional and university ensembles.

The thesis/recitals which culminate the program will ordinarily include both a full-length solo recital and a lecture-recital.

| Core Program | Credits |
|--|---------|
| American Music | 2 |
| Analysis for Performance and Composition | 3 |
| Bibliography and Methods of Research | 2 |
| Conducting, Rehearsing, and Interpreting | 3 |
| Twentieth Century Music | 2 |
| SUB-TOTAL | 12 |
| Applied Music | 6 |
| Approved Electives | 8 |
| Thesis—Recital | 6 |
| TOTAL | 32 |

Church Music (Master of Music)

Virginia Commonwealth University is the only state-supported institution in Virginia which offers degree programs in church music. Located in a region with more than 240 churches of all denominations, the church music major has exceptional opportunities for observation, field work, and participation in programs of all types. Through refinement of skills in conducting, analysis, and performance, as well as formulation of a philosophical base for program development and implementation, the graduate of this curriculum will be prepared to develop and administer multi-faceted church music programs. Since the graduate curriculum is designed to complement undergraduate majors in this field, students who have not had preparatory coursework in hymnology, liturgics, children's choir, or choral repertoire will supplement their curriculum with selected courses from the undergraduate offerings. The thesis/recital

requirement may be satisfied by the presentation of a solo or lecture-recital, preparation and direction of a choral concert, or a written paper involving program development or other research. Other thesis alternatives may be developed with the approval of the Graduate Faculty Committee of the Department of Music.

| | Credits |
|--|---------|
| Analysis for Performance and Composition | 3 |
| Applied Music | 4 |
| Bibliography and Methods of Research | 2 |
| Choral Pedagogy | 3 |
| Church Music Philosophy and Administration .. | 6 |
| Conducting, Rehearsing, and Interpreting | 3 |
| Field Work in Church Music | 2 |
| Approved Electives | 6 |
| Thesis—Recital | 3 |
| TOTAL | 32 |

Composition (Master of Music)

The composition degree program is centered on private study with faculty members who are themselves published composers as well as outstanding performers. Emphasis is placed on the development of traditional compositional skills as well as contemporary techniques. The availability of three separate electronic music studios gives VCU one of the most complete facilities of its type in the country. Student compositions are performed as a regular part of the Chamber Music Ensemble program and may be featured in ensemble concerts. The graduate curriculum may be supplemented with courses in composition for the theatre and modern popular media. In addition to an exit portfolio of a minimum of four works of at least five minutes duration each, the student will submit a thesis composition of at least eight minutes duration accompanied by an expository paper, score and parts, and taped performance.

| | Credits |
|---------------------------------|---------|
| Core Program ⁴ | 12 |
| Analysis (MUC 612) | 3 |
| Composition | 6 |
| Approved Electives | 8 |
| Thesis | 3 |
| TOTAL | 32 |

⁴The specifics of the Core Program are listed under the Master of Music (Applied Music).

Music Education (Master of Music)

The Department of Music offers both M.M. (Education) and the M.M.E. degrees. The M.M. degree has a traditional structure and provides the student an opportunity to take courses during the fall, spring, and summer sessions as a full-time student. This degree program is intended for students who are able to take a leave of absence from their school positions, those who are not currently teaching, or those who feel that the M.M.E. degree program is not suited to their needs. In addition to electives and required courses, a thesis is presented for this degree. The thesis may be developed on a subject related to some phase of music education or music education history or may take the form of a recital or lecture-recital for students who have a particular interest in performance.

| | <i>Credits</i> |
|-----------------------|----------------|
| Applied Music | 3 |
| Arranging | 3 |
| Choral Pedagogy | 3 |

| | |
|--|----|
| Conducting, Rehearsing, and Interpreting | 3 |
| Music Education Philosophy and Technology .. | 6 |
| Approved Electives | 11 |
| Thesis | 3 |

| | |
|-------|----|
| TOTAL | 32 |
|-------|----|

Master of Music Education

The M.M.E. program is an alternative to traditional graduate study. Through a unique combination of the academic environment and the professional life of the student, the curriculum deals directly with the professional demands, responsibilities, and potentials of the skilled music educator. The emphasis is on both musical and teaching competence. Teachers entering the program must be experienced and currently employed, since their own classrooms and teaching are involved in their graduate study. The program involves two intensive summers on the VCU campus plus significant supervised research and development work during the school year in the teacher's own professional position.

Master of Music Education Program Schedule

| Phase | I | II | III |
|-------------------|--|---|--|
| Dates | June-July (8 weeks) | Fall-spring semesters | June-July (8 weeks) |
| Major Activity | Homogenous group. Acquisition of music education competencies and preparation for individual research. | Independent study projects in programmatic research and development plus preparation of thesis. | Homogenous group. Musical and educational exploration and analysis. Elective courses |
| Place of Activity | VCU | Teacher's classroom | VCU |
| Credits Earned | 10 | 6-6 research | 10 |
| Courses | Music Ed. 681 5 credits Music Ed. 683 5 credits | Music Ed. 685-686 12 credits | Music Ed. 687 3 credits Elective courses 7 credits |

For additional information regarding the M.M.E. degree program, write to the Department of Music, Virginia Commonwealth University, 1015 Grove Avenue, Richmond, Virginia 23284.

Music History (Master of Music)

Graduate music history study encompasses all aspects and phases of the field: compositional styles, ethnomusicology, bibliography, and general musicology. Virginia Commonwealth University is in a rare position to offer the opportunity of first-hand research in early American music because it is centrally located in an area which contains many pieces of music and musically-related documents which helped

to form our musical culture. The close proximity of the Library of Congress and the Smithsonian Institution also provide excellent research opportunities.

| | <i>Credits</i> |
|--------------------------------|----------------|
| Core Program | 12 |
| Seminar in Music History | 2 |
| Music History | 8 |
| Approved Electives | 4 |
| Thesis | 6 |
| TOTAL | 32 |

ADDITIONAL INFORMATION, GRADUATE PROGRAMS

Students in all fields of graduate music study may, with the approval of their advisor, department chairman, and the director of graduate studies, elect independent study for the fulfillment of course requirements.

All degree-seeking students in music should consult the current Handbook for Graduate Studies in Music for specific departmental policies which pertain to their degree programs. Requirements for aural proficiency and functional piano are published in this handbook.

GRADUATE COURSES IN MUSIC

Courses in Applied Music (APM)

501, 502; 601, 602 Private Instruction: Principal and Secondary Performance Mediums. Semester courses; one half hour or one hour private lesson per week. 1-3 credits. Extra fee required. Hour lessons are primarily for music students on a major instrument and require one hour daily practice per credit. Non-music majors may register only with permission of department. Sections: piano, voice, organ, percussion, flute, oboe, clarinet, saxophone, bassoon, classical guitar, trumpet, trombone, baritone, French horn, tuba, violin, viola, cello, double bass, harpsichord, composition (offered only for 3 credits), harp, and carillon (offered only for 1 credit).

511-512 Score Reading. Continuous course; 2 laboratory hours. 1-1 credits. Prerequisite: APM 274 or the equivalent. A progressive course in reducing scores at the keyboard, beginning with simple choral scores and progressing to full orchestra and band. No degree credit for graduate composition majors.

563-564 Pedagogy. Continuous course; 2 lecture hours. 2-2 credits. A study of the musical, physiological, and psychological aspects of teaching instruments or voice. Second semester will include practical experience in teaching students under faculty supervision. Sections: (1) piano, (2) voice, (3), organ, (4) percussion, (5) brass, (6) woodwinds, (7) strings, and (8) guitar.

571 Choral Pedagogy. Semester course; 3 lecture hours. 3 credits. Teaching competencies relative to the choral training and use of the unchanged, changing, and matured voice will be stressed. Included are consideration of vocal production, pronunciation, aural skills, reading skills, and stylistic interpretation.

631, 632 Piano Literature and Performance Practice. Semester courses; 2 lecture hours. 2, 2 credits. To familiarize the student with a broad repertoire of

performing and teaching material. Discussion of approaches to styles and idioms of various periods; solution of technical and musical problems encountered in specific pieces; evaluation of various editions of piano literature.

651 Large Ensembles. Semester course; 3 laboratory hours. 1 credit. Sections: (1) orchestra, (2) concert band, (3) symphonic band, (4) chorus, and (5) university—community chorale. (Auditions required for sections 1, 3, and 4.) Each section may be repeated up to six times for credit.

653 Chamber Music. Semester course; 4 laboratory hours. 1 credit. A flexible program designed to involve students in the performance of a wide range of chamber music. Included are conducting and reading experience with the conducting band and chorus in which all chamber music students participate. Each section may be repeated up to six times for credit.

655 Small Ensemble. Semester course; 3 laboratory hours. 1 credit. Sections: (1) stage band, (2) madrigalists, (3) collegium musicum, (4) jazz-rock band, (5) opera workshop, (6) accompanying, (7) percussion ensemble, (8) trombone ensemble, (9) percussion lab ensemble, and (10) clarinet choir. (Auditions required for all sections.) Each section may be repeated up to six times for credit.

663 Advanced Pedagogy. Semester course; 2 lecture hours. 2 credits. Further study in pedagogical systems, techniques, and materials. Sections: (1) piano, (2) voice, (3) organ, (4) percussion, (5) brass, (6) woodwinds, and (7) strings.

679 Conducting, Rehearsing, and Interpreting. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Acquisition of refined conducting competence including effective and efficient rehearsal procedures, recognition and correction of errors, effective communication, appropriate stylistic interpretation, and complex dextrous skills.

Courses in Music History (MHT)

521-522 Survey of Music History. Continuous course; 3 lecture hours. 3-3 credits. A study of Western music in an historical context from antiquity to the present. No degree credit granted.

541 American Music. Semester course; 2 lecture hours. 2 credits. The growth and development of music in the United States from 1607 to the present. While the chief concentration will be upon art music and church music, folk music, jazz, and the other forms for popular expression will be included.

542 Twentieth Century Music. Semester course; 2 lecture hours. 2 credits. Impressionistic, expressionistic, neo-classic, and neo-romantic influences and styles of music. Development of new sound-generating techniques and methods for ordering the new tonal materials.

52 School of the Arts

551, 552 Orchestral Repertoire. Semester courses; 1 lecture hour (1 credit); 1 lecture and 2 laboratory hours (2 credits). Performance and study of selected major symphonic works from historical, analytical and stylistic perspectives. Research reports will include comparisons of interpretations. Repertoire will consist of basic audition pieces selected by orchestras. Laboratory sessions will utilize available instrumentation for performance.

581 Topics in Music. Semester course; variable credits, 1-3. May be repeated for a maximum of 9 credits. Flexible term courses in selected aspects of music performance, theory, literature, or history. See schedule of classes for specific topic to be offered each semester.

617-618 History of Theory. Continuous course; 2 lecture hours. 2-2 credits. Reading and discussion of writings of the major theorists of Western music. (Offered upon student request.)

630 History of Church Music. Semester course; 2 lecture hours. 2 credits. A survey of liturgical music from Biblical times to the present with emphasis on the music of the Jewish, Orthodox, Roman, and Protestant rites. (Offered upon student request.)

642 Introduction to Musicology. Semester course; 2 lecture hours. 2 credits. Prerequisite: a reading knowledge of at least one modern foreign language. A course to prepare students who wish to pursue further graduate or professional work for the extensive and intensive research methods of historical and ethnomusicology. (Offered upon student request.)

643, 644 Notation. Semester courses; 2 lecture hours. 2, 2 credits. A study of European notational systems no longer in use, ca. 1200-1600 A.D. Transcription into modern notation of each of the various types.

645 Gregorian Chant. Semester course; 2 lecture hours. 2 credits. A study of the history, theory, design, and use of Gregorian Chant from its inception to the present. Discussion will include non-liturgical and supra-liturgical uses in other Western music. (Offered upon student request.)

647, 648, 649, 650 Seminar in Music History. Semester courses; 2 lecture hours. 2 credits each semester. An intensive study of a limited phase or segment of music history through examination of relevant materials and extended class discussion.

666 Music of the Middle Ages. Semester course; 2 lecture hours. 2 credits. Principal musical developments from the first through the fifteenth centuries; Gregorian Chant, the rise of secular monophony; the development of polyphony—its forms and styles. (Offered alternate years.)

667 Music of the Renaissance. Semester course; 2 lecture hours. 2 credits. Principal musical development from the late fifteenth through sixteenth centuries; sacred and secular homophonic and polyphonic forms

and styles; the development of instrumental idioms and forms; the spread of music into cultured society. (Offered alternate years.)

668 Music of the Baroque. Semester course; 2 lecture hours. 2 credits. Principal developments, ca. 1590-1750; accompanied monody and the beginning of opera; forms and styles of sacred and secular compositions. (Offered alternate years.)

669 Music of Rococo and Classical Eras. Semester course; 2 lecture hours. 2 credits. Major developments in sacred and secular forms and styles, ca. 1730-1828; social and artistic influences on music; dominance of instrumental music; Mozart, Beethoven, and the German Symphony. (Offered alternate years.)

670 Music of the Romantic Era. Semester course; 2 lecture hours. 2 credits. Influence of the Romantic Era on concepts of musical forms and styles: the development of the art song; the growth of opera; the exploitation of instruments and tonality. (Offered alternate years.)

680 Bibliography and Methods of Research. Semester course; 2 lecture hours. 2 credits. A course to introduce graduate students to the chief bibliographic materials in music and to help to develop skills of research and writing necessary to produce a thesis or other formal research paper.

Courses in Music Theory (MHT)

511, 512 Theory Review. Semester courses; 2 lecture hours. 2 credits. First semester: Renaissance and Baroque counterpoint. Second semester: common practice, chromatic, and 20th century harmony. Both semesters include conceptual, analytical, and compositional techniques.

513 Arranging. Semester course; 3 lecture hours. 3 credits. Practical, technical, and conceptual considerations of arranging and transcribing for vocal and instrumental groups will be explored. Students will demonstrate competence in these creative areas to the optimum level of school and/or church music organizations.

613, 614, 615, 616 Seminar in Music Theory. Semester courses; 2 lecture hours. 2 credits each semester. Topical discussions and relevant research appropriate to the principal eras of music development. (Offered upon student request.)

620 Set Theory. Semester course; 2 lecture hours. 2 credits. Discussion and analysis of sets as they are used in music, their function, mutation, and application in different historical periods. (Offered upon student request.)

677-678 Pscho-Physio Acoustics. Continuous course; 2 lecture hours. 2-2 credits. A study of the physical properties of sound and of the psychological and physiological effects produced when perceived as music. (Offered upon student request.)

Courses in Music Composition (MUC)

505 Twentieth Century Techniques. Semester course; 3 lecture hours. 3 credits. Prerequisite: MHT 222 or permission of instructor. Composition in and analysis of techniques associated with Late Romanticism, Impressionism, Neo-Classicism, Expressionism, Serialism, and current avant-garde music. No degree credit for graduate composition majors.

506 Advanced Scoring Techniques. Semester course; 3 lecture hours. 3 credits. Application of idiomatic scoring devices for orchestral instruments and voices in both large and small combinations. No degree credit for graduate composition majors.

517 Introduction to Electronic Music. Semester course; 2 lecture and 2 laboratory hours. 3 credits. A study of laboratory techniques and composing for electronic instruments.

518 Electronic Music Control Systems. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: MUC 517. A study and application of analog/digital control techniques used in electronic music composition.

525, 526 Projects in Electronic Music. Semester courses; 4-12 laboratory hours. 2-6 credits. Prerequisite: permission of instructor. Each course may be repeated for a maximum of 12 credits. Completion of selected projects in electronic module design and/or electronic music composition.

611-612 Analysis for Performance and Composition. Continuous course; 3 lecture hours. 3-3 credits. Analysis of the organization, combination, and manipulation of constructive devices of music from the sixteenth century to the present with demonstration of this knowledge through performance and composition.

621, 622, 623, 624 Composition Seminar. Semester courses; 2 lecture hours. 2 credits each semester. Discussion, analysis, and criticism of selected compositions pertinent to the improvement of student skills and understanding.

Courses in Church Music (CHM)

621-622 Church Music Philosophy and Administration. Continuous course; 3 lecture hours. 3-3 credits. Acquisition of philosophical bases for music in liturgical and non-liturgical churches. Development of administrative skills in resolving problems concerning organization, scheduling, budgeting, and personnel.

635, 636, 637, 638 Seminar in Organ Performance Practices. Semester courses; 2 lecture hours. 2 credits each semester. A study of selected organ music (literature) from the Renaissance to the twentieth century. Emphasis on structural and stylistic analysis and performance practices.

639-640 Field Work in Church Music. Continuous course. 1-1 credit. Prerequisite: a position as a choir director or organist-director in a nearby church.

Planning and direction of a church music program with faculty supervision.

Courses in Music Education (MUE)

561, 562 Introduction to Ethnomusicology in Education. Continuous course; 3 lecture hours. 3, 3 credits. Development of competence in interpretation of world music in terms of cultural context; metric, rhythmic, and melodic concepts; structural principles; textural phenomena; and timbres produced by instruments from other cultures.

575 Aspects of Popular Music. Semester course; 3 lecture hours. 3 credits. At the completion of the course, the student shall be able to articulate a thoughtful perspective of so-called "Classical Music" and Pop Music, as well as be able to explicate the intellectual, aesthetic, and cultural aspects of this music. Open to both majors and non-majors; no degree credit for undergraduate music majors.

576 The Phenomenon of "Rock". Semester course; 3 lecture hours. 3 credits. After analyzing the formal musical principles and the socio-literary phenomenon of Rock music, as reported in Rock newspapers, books, and articles, and record jackets, etc., the student shall be able to offer cohesive and logical evidence, verbally and through position papers, which will lead to a clearer definition and understanding of this youth movement. He will also be able to cite, with corroborative evidence, an accurate survey of its historical development. No degree credit for music majors.

583 Special Workshop in Music Education. Semester course; 15-45 laboratory hours. Variable credits.

587 Rhythms for Elementary Aged Children. Semester course; 3 lecture hours. 3 credits. Significant contributions of rhythmic activity to the social, physical, emotional, intellectual, and musical growth of children. Fundamental rhythms, singing songs and games, traditional folk and national dances, creative movement, and the use of practical classroom materials in music education will be presented.

646 Aesthetics. Semester course; 2 lecture hours. 2 credits. A study of music from the standpoint of design and craftsmanship as it embodies the principles of art defined and reflected in the literary writings of philosophers and composers. Examples of other art forms will be examined when relevant.

661-662 Music Education Philosophy and Technology. Continuous course; 3 lecture hours. 3-3 credits. Development of educational competencies which are intrinsic to contemporary educational processes including strategy design, evaluation procedures, curricula structuring, and school administration. Alternatives within these areas of competence will be developed and substantiated through philosophical rationale.

675 Pedagogy of Music. Semester course; 2 lecture hours. 2 credits. A class designed to train the prospective teacher how to present the elements and

materials of music in a program designed for the general classroom; to include listening, performing, composing, and incorporating music in a meaningful aesthetic experience.

676 School Music Supervision and Administration. Semester course; 2 lecture hours. 2 credits. The study of the organization, curriculum, course content, administration, and personnel problems in public school music.

681 Integrated Musical Behaviors. Summer course; 10 hours weekly for 8 weeks. 5 credits. As a culmination of course activity, each student will demonstrate operational competencies to the level of the optimum field demands of his teaching specialty in all of the following areas: stylistic interpretation of music, conducting skills, rehearsal operations, repertoire selection, composing, arranging, functional piano performance, sight singing, score reading, and usage of electronic music instruments. In addition, each student will demonstrate performance capabilities on one instrument (or voice) to the level of standard professional repertoire. (Open only to Master of Music Education students.)

683 Music Education Processes. Summer course; 10 hours weekly for 8 weeks. 5 credits. Each student will analyze three major educational systems and/or documented field operations and will evaluate operational procedures against stated or implied philosophical positions. To the level of the optimum field demands of his teaching specialty, each student will demonstrate operational competencies in the following areas: assisting students to sing with accuracy and appropriate vocal quality; using a variety of educational strategies; teaching basic techniques on orchestral and band instruments; employing contemporary educational technology; objectively evaluating his own and other's teaching; preparing alternatives in scheduling, purchasing, and other administrative procedures; assisting students to hear accurately; and structuring appropriate curricula which involve students in a wide range of musical behaviors. (Open only to Master of Music Education students.)

685-686 Music Education Research. Continuous course. 6-6 credits. Prerequisites: MUE 681 and 683. Each student will design and implement a programmatic research and development project dealing with either instructional processes or curricular structures. The project activity will be conducted in a school classroom and will involve students in both the research and development operations. Two two-day seminars will be held each semester for analysis and evaluation of the project operations. The student will prepare a thorough report of all research and development operations including conclusions and recommendations. (Open only to Master of Music Education students.)

687 Research Assessment and Music Interaction. Summer course; 22-½ hours weekly for two weeks. 3 credits. Prerequisite: MUE 685-686. Based on assessments of research and development activities of the

entire class, each student will identify and explore styles of musical interaction and teaching with his class and the current Music Education 683, Music Education Processes class. (Open only to Master of Music Education students.)

Department of Painting and Printmaking

The Department of Painting and Printmaking offers a graduate program of study leading to the M.F.A. degree. Students admitted to the program are expected to have achieved a high level of competency in either painting or printmaking. The graduate program is designed to encourage the development of professional attitudes and skills, with an emphasis on individual investigation.

ADMISSION REQUIREMENTS, M.F.A.

In addition to the School of the Arts admission requirements shown on page 40, applicants in the visual arts must have completed a minimum of 36 semester hour credits in art at the undergraduate level.

DEGREE REQUIREMENTS, M.F.A.

Program Pattern

| FIRST SEMESTER | THIRD SEMESTER |
|---|---|
| 9 credits of studio (6 credits of major 3 credits of minor) | 9 credits of studio (6 credits of major 3 credits of minor) |
| 3 credits seminar in Contemporary Painting | 3 credits seminar in Contemporary Painting |
| 3 credits graduate project and seminar ⁵ | |
| 15 Semester Hours | 12 Semester Hours |
| SECOND SEMESTER | FOURTH SEMESTER |
| 9 credits of studio (6 credits of major 3 credits of minor) | 9 credits of studio (6 credits of major 3 credits of minor) |
| 3 credits Aesthetics | |
| 12 Semester Hours | 9 Semester Hours |
| | TOTAL 48 Semester Hours |

⁵ Attendance for the Graduate Project and Seminar will be mandatory for the duration of the student's study in the graduate program, although the seminar will only be offered in the first semester of study. The grade of "PR" would be assigned until all degree requirements have been completed and the student presents the final exhibition, appropriately documented, for graduation.

GRADUATE COURSES IN PAINTING AND PRINTMAKING (PAP)

605, 606, 607, 608 Graduate Painting. Semester course; 6 or 12 studio hours. 3 or 6 credits each. A studio class in which primary emphasis is placed on the creative disciplines of contemporary painting. Special attention is given to the development of personal expression through individual criticism.

615, 616, 617, 618, 619, 620 Graduate Printmaking. Semester course; 6 or 12 studio hours. 3 or 6 credits each. Specialization in one printmaking medium with emphasis upon technical research and the aesthetic suitability of design to medium. Individual and group criticism.

621, 622 Graduate Drawing. Semester courses; 6 studio hours. 3 credits each. A studio class with individual criticism. Special attention is given to contemporary concepts.

651 Graduate Project and Seminar. Semester course; 3 lecture hours. 3 credits. Degree requirement for graduate students in the Department of Painting and Printmaking. Weekly seminar for the purposes of discussion of recent developments in painting and printmaking. Critiques on student's work will take place with emphasis on students discussing their artistic theory.

Department of Sculpture

The Department of Sculpture exists for creative persons who wish to structure their ideas by manipulating tangible materials. The goals of the M.F.A. degree program in sculpture are to instill in students a sense of pride based on competence and to help them develop methods of working and an attitude which will sustain them in their professional growth as sculptors.

The department has a faculty of seven teachers who represent a number of directions and attitudes related to the making of sculpture. These range from formal ideas involved with solutions in wood, steel, stone, and plastic, to those in video, music, and holography. The collective interaction of the students and faculty creates an exciting, provocative environment. The basic attitude of concern for the students in their development as individuals and artists can be observed in the strong quality of the student work. This is evident in the annual student/faculty show and the high professional quality of work graduate students present to galleries.

The hallmark of the sculpture department is the development of the individual as an artist. The students are encouraged to assume the personal responsibility for their conduct as artists.

ADMISSION REQUIREMENTS, M.F.A.

In addition to the School of the Arts admission requirements shown on page 40, applicants in the visual arts must have completed a minimum of 36 semester hour credits in art at the undergraduate level.

DEGREE REQUIREMENTS, M.F.A.

Program Pattern

| | <i>Credits</i> |
|--|----------------|
| Studio Major | 24 |
| Graduate Sculpture Project and Seminar | 4 |
| Electives | 20 |
| TOTAL | 48 |

The graduate student is required to participate in a departmental seminar each semester for the full two years of residency. Seminar content is topical with a core of study directed toward the presentation and documentation of the candidate's graduate show.

GRADUATE COURSES IN SCULPTURE (SCU)

511, 512; 611, 612 Graduate Sculpture. Semester course; 6, 6 to 12, 12 studio hours. 3, 3 to 6, 6 credits each. Emphasis on individual creative production with periodic exposure of student's work and ideas to the critical attention of the sculpture department's teaching faculty and other graduate students.

515, 516; 615, 616 Graduate Project and Seminar. Semester course; 1 lecture hour. 1 credit. Degree requirement for graduate students in the Department of Sculpture. Weekly seminars for the purpose of exploring recent developments in sculpture and conducting critiques in which students can discuss the ideas and attitudes manifest in their work.

613, 614 Advanced Graduate Sculpture. Semester course; 6-6 to 12-12 studio hours. 3-3 to 6-6 credits each. Work directly related to the production of work out of which a graduate exhibit may evolve.

Department of Theatre

The Department of Theatre offers intensive M.F.A. degree programs in performance and design-technical. The curriculum provides graduate students with the educational and professional foundations essential to attaining the highest standards in the art of the theatre. Applicants are admitted only upon satisfactory demonstration of ability and genuine interest through audition and interview. The demands of the program are stringent and only those students who are willing to commit themselves to the work in the department, who are capable of observing strict professional discipline, and who are in good health should apply.

The M.F.A. program is based on the philosophy that the nature of theatre requires the creative collaboration of all theatre artists working together as members of a company. All members share the responsibility of solving problems relating to the planning, preparation, and realization of productions.

The curriculum consists of an intensive program of related practical and theoretical studies. Each semester a specific period of theoretical history—from the Greeks to the Contemporary/Experimental—will be chosen as an area of concentration. All company productions and performance events will reflect the period being studied.

ADMISSION REQUIREMENTS, M.F.A.

In addition to the School of the Arts admission requirements shown on page 40, applicants in theatre must have completed a minimum of 30 semester hour credits in theatre at the undergraduate level. Professional experience will also be considered.

An audition or presentation of portfolio is required in addition to a personal interview which the applicant must arrange with the chairman of the Department of Theatre.

DEGREE REQUIREMENTS, M.F.A.

Program Patterns

ACTING

| | |
|---|----|
| Colloquium and Practical Training | 12 |
| Production | 24 |

| | |
|--|-----------|
| Seminar in Production Process | 9 |
| Thesis Project and Documentation | 3 |
| TOTAL | 48 |

DIRECTING

| | |
|--|-----------|
| Seminar in Production Process | 6 |
| Theory and Criticism | 6 |
| Directing | 9 |
| Professional Internship | 6 |
| Approved Electives | 15 |
| Thesis Project and Documentation | 6 |
| TOTAL | 48 |

DESIGN TECHNICAL SCENE DESIGN

| | |
|--|-----------|
| Scene Design | 12 |
| Seminar in Production Process | 9 |
| Scene Painting | 3 |
| Costume Design | 6 |
| Light Design | 6 |
| Adv. Theatre Tech | 6 |
| Approved Elective | 3 |
| Thesis Project and Documentation | 3 |
| TOTAL | 48 |

COSTUME DESIGN

| | |
|--|-----------|
| Costume Design | 12 |
| Seminar in Production Process | 9 |
| Scene Design | 3 |
| Light Design | 3 |
| Adv. Theatre Tech | 3 |
| Approved Electives | 15 |
| Thesis Project and Documentation | 3 |
| TOTAL | 48 |

GRADUATE COURSES IN THEATRE (THE)

SPE 501, 502 Professional Internship. Semester courses; 3-9 credits. Prerequisite: permission of department chairman. A practicum in theatre conducted in cooperation with professional or semi-professional theatre organizations. Majors only.

SPE 508 Speech for Teachers. Semester course; 3 lecture hours. 3 credits. Principles and practice for the prospective or inservice teacher in creative oral expression in the classroom, as well as in interpersonal and public communication. Emphasis on the role of the teacher as listener. Voice and articulation exercises.

SPE/THE 519 Speech and Theatre Methods. Semester course; 3 lecture hours. 3 credits. A study of the basic methods used in the teaching of drama and speech in the secondary school.

SPE 521 Speech for Business and the Professions. Semester course; 3 credits. Theory and practice in the oral communication process as it relates to business organizations and the professions. Development of expository and persuasive subject matter with presentation in simulated interpersonal and group situations.

501, 502 Professional Internship. Semester courses; 3-9 credits. Prerequisite: permission of department chairman. A practicum in theatre conducted in cooperation with selected professional or semi-professional theatre organizations. Majors only.

503, 504 History of Dramatic Literature. Semester courses; 3 lecture hours. 3, 3 credits. Study and analysis of dramatic literature.

505-506 Advanced Scene Design. Continuous course; 1 lecture and 4 studio hours. 3-3 credits. Prerequisite: THE 305-306 or permission of instructor. A more advanced study of the techniques, methods, and problems of scene design. Participation in departmental productions.

507 Advanced Scenic Technique. Semester course; 1 lecture and 4 studio hours. 3 credits. Prerequisite: THE 221 or permission of instructor. An intensive involvement in contemporary theory and practice of scenic techniques. Participation in departmental productions.

508 Scene Painting. Semester course; 1 lecture and 4 studio hours. 3 credits. Methods of painting scenery based on traditional and contemporary theories. Participation in departmental productions. This course may be repeated for a maximum of 9 credits.

513-514 Acting Styles. Continuous course; 6 studio hours. 3-3 credits. A study of the history and theory of acting styles from the Greeks to the present.

515, 516 Creative Dramatics. Semester courses; 3 lecture hours. 3, 3 credits. A study of the theory and practice of creative dramatics as it applies to elementary and secondary school education; laboratory exercises in the application of these theories to class room processes.

521, 522 Advanced Costume Design. Semester courses; 2 lecture and 2 studio hours. 3, 3 credits. Prerequisite: THE 321-322 and permission of instructor. An advanced study of the techniques, methods, and problems of costume design for the student who plans to enter the field professionally.

523, 524 Modern Drama. Semester courses; 3 lecture hours. 3, 3 credits. Intensive study of major Continental and American plays.

525 Theatre Administration. Semester course; 3 lecture hours. 3 credits. The business aspects of successful theatre operation—college, commercial, community, regional—from basic purchasing methods to publicity and “house” operation for the finished product.

526, 527 Playwriting. Semester courses; 3 lecture

hours. 3, 3 credits. Prerequisite: permission of instructor. A practical introduction to the creation of original play scripts for theatre, television, and motion pictures. Readings and studio performances of works in progress and completed scripts.

528 Puppetry. Semester course; 2 lecture and 2 studio hours. 3 credits. A study of puppetry as a serious and dynamic performing art, explored through its historical traditions and practical applications.

540-541 Theatre Projects. Continuous course; 15 laboratory hours. 3-5 credits. Individual or group performance projects in an area of dramatic literature or experience related to works under production in THE 530-531.

561, 562 Advanced Directing. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: THE 361-362. Further study in direction techniques, especially the problems of the full-length play.

603-604 Dramatic Criticism and Theory. Continuous course; 3 lecture hours. 3-3 credits. The major dramatic theories from Aristotle to the twentieth century and associated movements as they affect the development of Western drama.

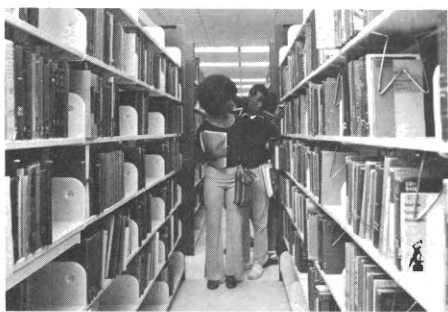
605, 606 Research and Special Problems in Drama. Semester courses; 1, 3 lecture hours. 1, 3 credits. Individually directed study and research under faculty supervision on approved research problems or projects in drama and theatre.

607 Introduction to Graduate Study in Speech and Drama. Semester course; 3 credits. A study of methods used in graduate research in drama and speech.

609 Seminar in Production Process. Semester course; 1 lecture and 4 laboratory hours. 3 credits. May be repeated with a change of topic for a maximum of 9 credits. Students and faculty in design/tech and performance working together in studio situations to identify and solve problems relating to the planning, preparation, and realization of productions.

680 Production. Semester course; 12 laboratory hours. 6 credits. The design, rehearsal, and performance of dramatic works. May be repeated for a maximum of 24 credits.

685 Colloquium and Practical Training. Semester course; 2 lecture, 2 studio hours. 3 credits. Literary, historical, and theoretical studies together with specialized voice and movement training related to dramatic works in production. May be repeated for a maximum of 12 credits.



School of Arts and Sciences

The School of Arts and Sciences offers the following graduate degree programs: M.A. in English/English education (with the School of Education), M.S. in biology, M.S. and Ph.D. in chemistry, M.S. in mass communications, M.S. in mathematics, M.S. and Ph.D. in psychology, and M.S. in sociology.

These programs are described in the sections which follow.

In addition to these degree programs the School of Arts and Sciences offers selected graduate courses in the Departments of Foreign Languages, History, Philosophy and Religious Studies, Physics, and Political Science, but does not offer graduate degree programs in these departments.

No graduate credit for any course work may be granted until the applicant has been admitted to a degree program. The possible acceptance of credit for courses taken at Virginia Commonwealth University and/or elsewhere prior to this admission will be determined by the department in conjunction with the dean.

All applications will be considered in terms of the specific requirements for admission noted in the description of the individual programs and of the applicant's ability to perform satisfactorily in the program for which he has applied. The judgment

of that ability will be based on the supporting material submitted with the application. Final action on admission is taken by the dean of the School of Arts and Sciences in consultation with the department concerned.

Applicants whose applications reach the university after July 1 for the fall semester and after November 15 for the spring semester should not expect their applications to be processed in time for registration. The applicant whose application arrives late may be considered for admission as a special student, but there is no guarantee that the special student will be accepted into a degree program.

Department of Biology

The Department of Biology offers a program leading to a Master of Science degree. Areas of specialization are environmental biology, systematic biology, developmental biology, behavioral biology, cellular biology, molecular biology, aquatic biology, and comparative physiology.¹

¹Students interested in pursuing a Master of Science degree in human physiology should consult the Department of Physiology at the Medical College of Virginia Campus of Virginia Commonwealth University.

In addition to the graduate courses offered by the Department of Biology, a graduate student may enroll with departmental permission in graduate courses offered at the Medical College of Virginia Campus in the Departments of Anatomy, Biochemistry, Biophysics, Biostatistics, Human Genetics, Microbiology, Pharmacology, and Physiology.

Degree candidates are required to take a minimum of 32 semester hours of credit which must include: a minimum of two and a maximum of four credit hours in seminar, one to six credit hours in research and thesis, and a minimum of four lecture courses exclusive of problems courses. All graduate students must take STA 543 at their earliest possible opportunity. Students entering the program with a statistics background equivalent to STA 543 may have this requirement waived with the permission of the chairman of the Department of Biology. Problems courses may be used as electives but only nine credit hours may apply toward the degree requirement and only three credit hours of any one course number may be taken. A maximum of six graduate credit hours of work taken at other institutions may be transferred if they meet departmental approval. Each student will be required to pass a final examination which will cover course content and research.

In addition to the general requirements for admission to graduate programs in the School of Arts and Sciences, the following requirements of the Department of Biology represent the minimum acceptable standards for admission:

1. Thirty semester credits in undergraduate biology.
2. Two years of college chemistry, including organic chemistry.
3. One year of college mathematics.
4. One year of college physics.
5. Three letters of recommendation pertaining to the student's potential ability as a graduate student in biology.
6. Graduate Record Examination scores, including those of the advanced biology examination.

Provisional admission may be granted when deficiencies exist. These deficiencies

must be removed by the end of the first year of residence, at which time the student's application will be re-examined. Courses which are remedial or designed to remove deficiencies will not be accepted for credit toward the fulfillment of the course requirements for the master's degree.

GRADUATE MINOR IN BIOLOGY

A minimum of nine semester hours excluding seminar and limited to no more than one problems course (3 credits).

GRADUATE COURSES IN BIOLOGY (BIO)

503 Biology of the Fishes. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: BIO 301 or permission of instructor. Evolution, taxonomy, structure, behavior, and ecology of fishes. Laboratory work will include special field trips for the collection of specimens.

506 Mycology. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: 16 credits of biology including BIO 319 or equivalent. The morphology, identification, and laboratory culture of fungi.

509 Plant Anatomy. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 320. Preparation and study of cells, tissues, and organs of seed plants.

510 Plant Taxonomy. Semester course; 1 lecture and 5 laboratory hours. 3 credits. Prerequisite: BIO 101, L101, 102, L102, or permission of instructor. Systematic survey of the vascular plant families with emphasis on relationships. Some field trips for observing local flora.

512 Radiation Biology. Semester course; 3 lecture hours. 3 credits. Prerequisite: 16 credits in science, including eight credits in biology and/or permission of instructor. A presentation by a series of lectures and demonstrations of the fundamentals of radioactivity, including the properties of radiation and the application of radioisotopes and tracer methodology to the biological sciences and nuclear medicine. Included are the biological effects of ionizing radiation on living systems and the theoretical and practical aspects of radiation protection.

L512 Radiation Biology Laboratory. Semester course; 3 laboratory hours. 1 credit. Prerequisite or corequisite: BIO 512. A series of laboratory experiences applying the practical aspects of radiometric determinations to the various areas of biology, including physiology.

513 Parasitology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: 14 credits in biology or permission of instructor. A survey of the life

cycles, classification, host-parasite relationships, and general biology of animal parasites.

514 Advanced Aquatic Ecology. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: BIO 307 or equivalent. Prerequisite or corequisite: BIO 317 or equivalent. An advanced quantitative and analytical approach to the study of aquatic ecosystems, stressing current ecological theories and research with application to ecosystems modeling, systems analysis, fish and aquatic resource management; laboratory experimentation, individual experimentation, individual student research, and presentations will be required.

515 Aquatic Macrophytes. Semester course; 1 lecture and 5 laboratory hours. 3 credits. Prerequisite: BIO 410. Field and laboratory study of vascular plants of aquatic habitats; includes collection, identification, and consideration of the ecology, morphology, and economic value of aquatic macrophytes.

516 Ornithology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: BIO 101, 102, or permission of instructor. Basic biology of birds with emphasis on their role in the environment.

517 Mammalogy. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 101, 102, and permission of instructor. Study of the characteristics, adaptive radiation, and distribution of mammals with emphasis on North American forms.

518 Plant Ecology. Semester course; 3 lecture and 2 laboratory hours; two three-day field trips required. 4 credits. Prerequisite: BIO 317 or permission of instructor. A lecture, field, and laboratory course concerned with the development, succession, and dynamics of plant communities and their interrelations with climate, soil, biotic, and historic factors.

520 Plant Physiology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: BIO 281 and 319 or 320 and CHE 301-302. Cell structure and functions, water relations, inorganic plant nutrition, metabolism, plant growth regulators.

522 Evolution and Speciation. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 310 or equivalent. Study of evolutionary principles, with emphasis on genetic and environmental factors leading to changes in large and small populations of plants and animals, and the mechanisms responsible for speciation.

524 Endocrinology. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 311 or 218 and CHE 301 and 302 or permission of instructor. Study of hormonal control systems at the organ, tissue, and cellular level; although the major emphasis will be on vertebrate endocrine systems, some discussion of invertebrate and plant control systems will be covered.

529 Neuroanatomy. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: BIO 205 or

permission of instructor. A study of the morphology and functional aspects of the central and peripheral nervous systems of the human body.

535 Herpetology. Semester course; 2 lecture hours. 2 credits. Prerequisite: BIO 301 or permission of instructor. A study of the phylogeny, natural history, and adaptation of amphibians and reptiles.

536 Laboratory in Herpetology. Semester course. 1 credit. Prerequisites: BIO 301 or permission of instructor. Exercises in the anatomy, classification, and behavior of amphibians and reptiles. Two weekend field trips required.

550 Developmental Biology. Semester course; 2 lecture, 1 recitation, and 4 laboratory hours. 4 credits. Prerequisites: BIO 302 and 319 or 320. Study of cellular/molecular mechanisms of differentiation during embryonic and post-embryonic development in animals and plants. How genetic control at various levels can lead to cell differentiation will be investigated in a number of developing systems: animal and plant embryos, seed germination, fern gametophyte, insect and amphibian metamorphosis, and animal regeneration. Laboratory work includes observation of developmental processes and experimental work using living material.

555 Immunology and Serology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: 16 credits in biology including BIO 218 and eight credits in chemistry. Basic aspects of the immune response in higher animals. Study of the serological techniques used in biological research.

562 Comparative Morphology of Vascular Plants. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: six credits in botany or permission of instructor. A study of the relationships between the various taxa of the Tracheophytes, based upon examination and comparison of organ development.

565 Functional Human Anatomy. Semester course; 3 lecture and 4 laboratory hours. 5 credits. Prerequisite: BIO 205 or equivalent or permission of instructor. A study of the anatomy and kinesiology of the human body using prosected specimens and the dissected cadaver. Particular emphasis is placed upon the study of the extremities. Intended primarily for students in the Department of Occupational Therapy.

570,571 Selected Topics in Botany. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisites: BIO 319 and 320 or permission of instructor. Selected topics and in depth study in a specific area of botany. See schedule of classes for specific topic(s) and prerequisites.

595 Topics in Biology. Semester course. Variable credit. Maximum 3 credits per semester. An in depth study of a selected topic in biology. See schedule of classes for specific topic(s) and prerequisites.

600 Research and Thesis. Semester course. Credits and hours to be arranged. Independent research by

students in areas of systematics, environmental, developmental, behavioral, cellular, and molecular biology, and comparative physiology.

601 Seminar. Semester course. 1 credit. Independent reading and study in selected areas of biology leading to an oral presentation by students. May be repeated for credit.

607, 608 Topics in Genetics and Molecular Biology. Semester courses; 1, 2, or 3 credits. Studies of particular areas in genetics and molecular biology. Concurrent sections may be offered.

609, 610 Topics in Biology. Semester courses. Credits and hours to be arranged. A course designed to provide an opportunity for independent research in any area of biology outside the graduate student thesis area.

611, 612 Topics in Systematics. Semester courses. 3, 3 credits. Studies of particular areas in systematic biology. Concurrent sections may be offered.

613, 614 Topics in Environmental Biology. Semester courses. 3, 3 credits. Studies of particular areas in environmental biology. Concurrent sections may be offered.

615, 616 Topics in Developmental and Behavioral Biology. Semester courses; 3, 3 credits. Studies of particular areas in developmental and behavioral biology. Concurrent sections may be offered.

617, 618 Topics in Physiology. Semester courses; 3, 3 credits. Studies of particular areas in physiology. Concurrent sections may be offered.

619 Aquatic Entomology. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisite: BIO 309. A taxonomic and ecological study of aquatic insects (both freshwater and marine) with emphasis upon the immature stages, life histories, and distributional responses to different aquatic habitats.

624 Plant Systematics. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 510 or a course in plant taxonomy. A lecture course in plant systematics. A study of experimental methods for solving taxonomic and systematic problems in the vascular plants.

626 Physiological Ecology. Semester course; 3 lecture and 4 laboratory hours. 4 credits. Prerequisite: BIO 317 or 414 or equivalent. Studies of the physiological adjustments and adaptations made by organisms in response to their environment.

627 Animal Behavior. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisites: BIO 311 and 317 or permission of instructor. The study of physiological and environmental factors in the patterns and mechanisms of animal behavior.

680 Algal Ecology. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: BIO 414/514 or permission of instructor. An ecological approach to

the study of freshwater and marine algae. The identification, morphology, life cycles, and culture of major algae divisions. Review of recent literature and discussion of selected topics in algae and behavioral biology. Concurrent sections may be offered.

682 Marine Biology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 414/514 or permission of instructor. A lecture, field, and laboratory course concerned with the working principles of biological oceanography and estuarine ecology. A study of selected marine faunal and floral communities and their interactions, particularly as they influence man and the environment.

Department of Chemistry

The Department of Chemistry offers programs leading to the Master of Science and Doctor of Philosophy degrees. The programs provide opportunities for concentrated study in either analytical, inorganic, organic, or physical chemistry. A plan of study is worked out for each student to insure a sound basis for research. In keeping with the university's commitment as an urban institution, the department also offers part-time programs leading to these degrees.

For admission, a student is expected to have a bachelor's degree from an accredited college or university with 30 semester credits in chemistry. Admission on a special basis is possible for a student temporarily lacking this expected chemistry background. Acceptance is based upon undergraduate performance, satisfactory scores on the Graduate Record Examination and letters of recommendation.

Graduate students in the Department of Chemistry may receive financial support via teaching or research assistantships or fellowships. Admission forms for graduate study and applications for fellowships and assistantships are available on request by writing to the Dean, School of Arts and Sciences, Virginia Commonwealth University, 901 West Franklin Street, Richmond, Virginia 23284.

DEGREE REQUIREMENTS

Entering graduate students are required to take proficiency examinations in analytical, inorganic, organic, and physical chemistry. These examinations are at the level of sound undergraduate courses and are

offered in early fall and spring. These are used to evaluate the student's strengths and weaknesses and his program is planned accordingly.

Students studying for the M.S. degree must demonstrate competency in analytical, inorganic, organic, and physical chemistry. New students who do well on the proficiency examinations may, by decision of the chemistry faculty, be considered to have demonstrated the necessary competency. The M.S. student is expected to earn a minimum of 18 semester credits in graduate courses in chemistry and 12 semester credits in research. The courses submitted for the M.S. degree should normally include the core courses:

Chemistry 504 Advanced Organic Chemistry, Chemistry 510 Atomic and Molecular Structure, Chemistry 532 Advanced Analytical Chemistry, Chemistry 615 Chemical Thermodynamics, and Chemistry 620 Advanced Inorganic Chemistry or their equivalents.

Additional graduate courses to be taken will be determined in consultation with the faculty research advisor and the faculty of the Department of Chemistry. Graduate students may elect to take courses offered on the MCV Campus. Among the courses taught at MCV of interest to chemistry students are organic pharmaceutical chemistry, stereochemistry, heterocyclic chemistry, general biochemistry, circuit design and analysis, and X-ray crystallography. The School of Basic Sciences section of the MCV Campus Bulletin should be consulted for other courses. Students are expected to participate in the department's seminar program for a minimum of two semesters and present at least two formal talks in the seminar program. An acceptable research thesis and a final oral examination on the thesis are required. Full-time students should complete these degree requirements in two years.

Students seeking the Ph.D. degree must demonstrate competency in analytical, inorganic, organic, and physical chemistry. The students who do exceptionally well in the proficiency examinations may, by decision of the chemistry faculty, be considered to have demonstrated the necessary compe-

tency. The proficiency examinations may be repeated.

Students studying for the Ph.D. degree are expected to earn a minimum of 30 semester hour credits in graduate courses in chemistry. The core courses listed above are considered a part of the required 30 hours. Other graduate courses to be taken will be determined in consultation with the faculty research advisor and the faculty of the Department of Chemistry. Students are expected to participate in the department's seminar program for a minimum of three semesters and present at least three formal talks in the seminar program. A reading knowledge of an approved foreign language is also required.

The student is required to complete a written and oral comprehensive examination in his major field to become a Ph.D. candidate. The oral comprehensive examination includes the defense of an original research proposal on a topic unrelated to the doctoral dissertation research. The student must conduct a substantial original investigation under the supervision of his advisor and prepare a dissertation reporting the results of the research and analyzing its significance in relation to existing scientific knowledge. An oral defense of the dissertation will be held. Full-time students should complete the degree requirements in about four years.

Additional information and a more detailed description of the graduate program may be obtained from the Department of Chemistry.

GRADUATE COURSES IN CHEMISTRY (CHE)

504 Advanced Organic Chemistry I. Semester course; 3 lecture hours. 3 credits. An integrated study of certain free radical and ionic reaction mechanisms with emphasis on electronic effects and stereochemical consequences of these reactions. Classical vs. non-classical carbonium ions and the Hammett equation are discussed.

510 Atomic and Molecular Structure. Semester course; 3 lecture hours. 3 credits. Qualitative and quantum mechanical treatment of atoms and molecules. Approximate and semiempirical calculations as well as experimental methods for the determination of molecular structure are discussed.

532 Advanced Analytical Chemistry. Semester course; 3 lecture hours. 3 credits. Theories and principles involved in analytical techniques such as spectrometry, electrochemical analysis, titrations in nonaqueous solvents, and chromatography.

595 Topics in Chemistry. Semester course; variable credit, 1-6 credits per semester; maximum total of nine credits for all topics courses. An in depth study of a selected topic in chemistry. See schedule of classes for specific topic(s) and prerequisites.

604 Advanced Organic Chemistry II. Semester course; 3 lecture hours. 3 credits. An integrated study of the mechanism and stereochemistry of organic reactions and their application to organic synthesis. Emphasis is placed on addition and condensation reactions, carbanions, carbenes, and other reactive intermediates.

605 Physical Organic Chemistry. Semester course; 3 lecture hours. 3 credits. The theory and application of physical methods in the study of the behavior of organic compounds. Topics covered include homogeneous kinetics, equilibria, acid-base catalysis, and the quantitative correlation of structure and reactivity as they apply to the understanding of the mechanisms of organic reactions.

606 Methods of Structural Determination in Organic Chemistry. Semester course; 3 lecture hours. 3 credits. Lecture and laboratory problems illustrating the application of instrumental analytical techniques for the solving of organic structural problems.

610 Applied Quantum Chemistry. Semester course; 3 lecture hours. 3 credits. Prerequisite: CHE 410 or 510 (Atomic and Molecular Structure). Quantum mechanics applied to chemical problems in UV, IR, and NMR spectroscopy and the electronic structures of atoms and molecules; development of the self-consistent field equations.

615 Chemical Thermodynamics. Semester course; 3 lecture hours. 3 credits. The study of the laws of thermodynamics and their application to pure phases, solutions, and changes in state.

616 Chemical Kinetics. Semester course; 3 lecture hours. 3 credits. A study of the rates and mechanisms of chemical reactions, reaction rate theory, kinetic theory of gases, and theories of catalysis.

620 Advanced Inorganic Chemistry. Semester course; 3 lecture hours. 3 credits. A study of the periodic properties of the elements with an emphasis on nuclear structure and reactions, inorganic nomenclature, atomic and molecular structure and bonding, reaction mechanisms, and a survey of the modern physical techniques of inorganic chemistry.

650 Special Topics. Semester course. 1-4 credits. Prerequisite: approval of department chairman. Lecture, tutorial studies, and/or library assignments in

selected areas of advanced study not available in other courses or as part of the research training. May be repeated for credit.

660 Chemistry Seminar. Semester course. 1 credit. In addition to reports that are presented by students, staff, and visiting lecturers, current problems and developments in chemistry are discussed. May be repeated for credit.

690 Research. Semester course. 1-12 credits. Research leading to the M.S. and Ph.D. degree. May be repeated for credit.

Department of English

The Department of English in conjunction with the Department of Secondary/Post Secondary Education,² offers a program leading to a Master of Arts degree in English/English education with four areas of emphasis or concentration.

The program provides maximum flexibility by allowing each student, in consultation with his graduate committee, to select the concentration which will best develop his competence in those areas most relevant to his scholarly and professional objectives.

The English/English education program consists of a minimum of 30-33 semester credits. After these credits have been attained, the student shall be examined over his courses and research as the Graduate Committee recommends. The student may also wish to present a thesis or project, credit for which shall be determined by the Graduate Committee.

In addition to the general requirements for admission to graduate programs in the School of Arts and Sciences and the School of Education, the following requirements, established by the English/English Education Graduate Committee, represent the minimum acceptable standards for admission:

1. A baccalaureate degree in an area appropriate to the degree program;
2. A grade point average that is indicative of the applicant's ability to pursue successfully a graduate degree;

²For graduate education courses applicable to the English/English education master's degree as well as for the listing of the graduate education faculty, see the School of Education section of this bulletin.

3. Three recommendations from persons who are qualified to give information concerning the applicant's probable success in graduate school; and
4. Completion of the Graduate Record Examination.

Programs leading to the Master of Arts degree in English/English education:

1. **COMMUNITY COLLEGE TEACHING**—designed for the candidate who is seeking a career in the community colleges.
2. **INTERDISCIPLINARY HUMANITIES**—designed for the candidate who is seeking a broad knowledge of the literature of several cultures. (For courses available in this option see the director of graduate studies in English.)
3. **ENGLISH EDUCATION**—designed for the candidate who plans to teach in the public schools.
4. **LITERATURE OR LITERATURE AND LINGUISTICS**—designed for the candidate who desires intensive work in English or American literature or linguistics beyond the bachelor's level, or for the candidate who plans to pursue the Ph.D. degree in English or linguistics.

GRADUATE COURSES IN ENGLISH (ENG)

501 Shakespeare. Semester course; 3 lecture hours. 3 credits. A study of representative comedies, histories, and tragedies.

502 Chaucer. Semester course; 3 lecture hours. 3 credits. A study of *The Canterbury Tales* and *Troilus and Criseyde*, with some attention to the lesser works.

503 Milton. Semester course; 3 lecture hours. 3 credits. A study of *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*, with some attention to the minor poems and selected prose.

507 Medieval Epic and Romance. Semester course; 3 lecture hours. 3 credits. A study of the vernacular epic and the romance in England and on the continent prior to 1500.

514 The American Novel. Semester course; 3 lecture hours. 3 credits. A study of the American novel from 1789 to the present, with particular emphasis on Cooper, Hawthorne, Melville, Twain, Howells, James, Dreiser, Fitzgerald, Hemingway, and Faulkner.

515 English Novel, Eighteenth Century. Semester course; 3 lecture hours. 3 credits. A study of the English novel from its beginnings through Jane Austen.

516 English Novel, Nineteenth Century. Semester course; 3 lecture hours. 3 credits. A study of the English novel from Scott through Hardy.

521, 522 Comparative Literature. Semester courses; 3 lecture hours. 3, 3 credits. A comparative study of the forms and contents of the literature of Western civilization in translation with some attention to the dominant influence on and interrelationships between English and continental literatures. First semester: ancient, medieval, and renaissance. Second semester: neo-classical, romantic, and modern.

523 English Drama, 900-1642. Semester course; 3 lecture hours. 3 credits. A study of the origin of the English drama and its development until the closing of the theaters in 1642, exclusive of Shakespeare.

524 English Drama, 1660-1800. Semester course; 3 lecture hours. 3 credits. A study of the English drama of the Restoration and eighteenth century from Dryden and Congreve to Sheridan and Goldsmith.

531 Literary Criticism. Semester course; 3 lecture hours. 3 credits. A study of the fundamental concepts involved in the practice of criticism. Some attention is given to the historical development of criticism, but the primary focus is on its methods and aims.

548 Introduction to Linguistics: Phonology. Semester course; 3 lecture hours. 3 credits. An introduction to methods of language analysis, emphasizing sounds and sound patterns.

549 Introduction to Linguistics: Morphology and Syntax. Semester course; 3 lecture hours. 3 credits. An introduction to methods of language analysis, emphasizing units of meaning and their arrangement in sentences.

551 History of the English Language. Semester course; 3 lecture hours. 3 credits. The historical development of the English language; etymology, orthography, and semantics.

605 Introduction to Literary Scholarship. Semester course; 3 lecture hours. 3 credits. An introduction to the forms and practice of modern literary research and criticism. Attention will be paid to bibliographical and textual criticism and to the most commonly employed approaches of literary historians and critics in English and American literature.

611 The Writer in His Own Time. Semester course; 3 lecture hours. 3 credits. A study of the biographical, intellectual, and sociological influences on a selected British or American writer and his work. The course is designed to discover how the external factors of a writer's life are absorbed and transmuted into art by drawing upon the resources of other disciplines when relevant. May be repeated for credit.

614 Major Works of Literature. Semester course; 3 lecture hours. 3 credits. A study of the aesthetic backgrounds, composition, and continuing interpretation of a selected work of English or American literature generally regarded as a classic. The intent of the course is to comprehend as fully as possible the literary work of art through studying the aesthetic influences upon it and by applying various critical approaches to it. May be repeated for credit.

617 Major Literary Modes. Semester course; 3 lecture hours. 3 credits. A study, through the analysis of selected literary works of several genres, of modes which are useful to understand and judge literature. The study may draw upon the literature of many nations in English translation. The following modes are examples of those which may be studied: the heroic mode, the tragic mode, the comic mode, the ironic mode.

620 Patterns in Literary Thought. Semester course; 3 lecture hours. 3 credits. A study of significant recurring intellectual attitudes and concepts which have found expression in literature and shaped the development of literary style and thought. The study will draw upon the literature of many nations in English translation. May be repeated for credit.

624 Literature in Society. Semester course; 3 lecture hours. 3 credits. A study of the ways in which literature often reflects, supports, and influences political and philosophical movements in society. Creative literature—primarily English and American—will be studied in terms of its response to or effect upon social issues. May be repeated for credit.

631/EDU 631 Teaching English to Minority Groups. Semester course; 3 lecture hours. 3 credits. A study of the problems confronted when teaching English to students from minority groups, with attention given to the importance of non-standard dialects and of preserving cultural uniqueness. Some emphasis will be placed on the student for whom English is a second language.

634-635/EDU 634-635 Seminar and Internship in the Community College. Continuous course; 2 lecture and 4 laboratory hours. 3-3 credits. Observation and practice of instructional techniques in English courses in the community college on all levels from developmental studies through college transfer courses, culminating in the student's acceptance of full responsibility for teaching a composition or reading course under the general supervision of a community college division chairman.

636/EDU 636 Teaching of Communication. Semester course; 3 lecture hours. 3 credits. A study of the traditional and modern instructional strategies for teaching various forms of communication but with primary emphasis on the teaching of composition and secondary emphasis on reading and speech. The validity of strategies will be tested in the student's own writing.

637/EDU 637 Mass Media and the Teaching of English.

Semester course; 3 lecture hours. 3 credits. A study of the use of the mass media in the English classroom. Emphasis will be on teaching methods designed to take advantage of the student's awareness of the media. Special attention will be given to television and film.

643/EDU 643 Teaching Basic Writing Skills. Semester course; 3 lecture hours. 3 credits. Emphasis on developing the student's ability to teach fundamental writing skills, including such topics as diagnosis of writing problems, strategies for correcting problems, and methods for evaluating progress.

652 Regional and Social Diversity in Language. Semester course; 3 lecture hours. 3 credits. Prerequisite: one course in modern grammar, history of the English language, linguistics, or permission of instructor. A study of regional dialects of the United States, social varieties of American English, theories of the origin of Afro-American dialects, the phonology, morphology, and syntax of standard and non-standard English, socio-political attitudes toward variation in English, and educational problems resulting from regional and social diversity in language.

661 Themes in Interdisciplinary Studies. Semester course; 3 lecture hours. 3 credits. May be repeated for credit. A study in depth of a theme, topic, or concept involving two or more disciplines.

697 Directed Independent Study. 1-3 hours. Variable credit. To be offered each semester. Prerequisite: permission from department chairman. For students in English/English education to pursue, in depth, a particular problem or topic about which an interest or talent has been demonstrated. Maximum of six credits permitted.

700-701 Thesis. Continuous course. 1-3 credits per course. Credits and hours to be arranged. Preparation of a thesis or project based on independent research or study and supervised by a graduate advisor.

Department of Mass Communications

The Department of Mass Communications offers a program leading to a Master of Science degree in Mass Communications. The program offers candidates two tracks through which individualized programs may be developed appropriate to these professional goals:

Track One: preparation for a career as a middle- or upper-level executive of one of the mass media.

Track Two: advanced preparation, or updating of proficiency, as a professional journalist in reporting and writing of urban affairs.

The program, with the cooperation of appropriate departments and schools within the university, includes interdisciplinary study in the social sciences and in business management. Students are encouraged to take course work in other appropriate areas that relate specifically to their interests and to the university's concern for social problems.

ADMISSION REQUIREMENTS

The program is open to graduates of colleges and universities accredited by the appropriate regional accrediting agency. Although the type of undergraduate degree is not critical to selection, each of the two tracks has requirements that must be satisfied through approved undergraduate curricula or the equivalent.

In addition to the general requirements for admission to graduate programs in the School of Arts and Sciences, the following requirements represent the minimum acceptable standards for admission:

1. A baccalaureate degree in an area appropriate to the mass communications degree program, with a grade point average that indicates the applicant's ability to pursue graduate work successfully.
2. Acceptable scores on the Graduate Record Examination.
3. Three recommendations from persons who are qualified to give information concerning the applicant's probable success in graduate school.
4. At least one course in basic statistics. If an applicant does not meet this requirement, he/she may enroll in an undergraduate statistics course at VCU during the first semester.
5. One year of economics. If an applicant does not meet this requirement, he/she may enroll in ECO 201-202 or 611.
6. At least three acceptable journalistic writing courses for admission to the professional track; one course in journalistic writing for admission to the media management track. Evidence of professional competence may be substituted for this requirement.

Courses designed to remove deficiencies (in categories 4, 5 and 6 above) will not be accepted for credit toward fulfillment of the course requirements for the master's degree.

An acceptable course in communications law is required for both tracks, and a course in some aspect of media management is required for the management track. The law requirement may be fulfilled by enrollment in MAC 508 as an approved elective. Candidates in the management track may fulfill the management requirement by enrollment in one of the department's 500 level management courses as an approved elective.

In addition to these minimum acceptable standards for admission, other prerequisites may be required, depending on the background and goals of the individual candidate. Holders of non-journalism/mass communications baccalaureate degrees who are considering the program should contact the department's director of graduate studies for additional information.

Provisional admission may be granted where deficiencies exist, in these areas:

1. Where an applicant does not have acceptable prerequisites. These should be completed early in the program, ideally before a candidate starts taking 600 level program courses. Except in rare cases, the prerequisites *must* be completed by the time the student has completed nine hours of graduate credit.
2. Where an applicant has marginal GRE scores. Provisional admission status will be reviewed by the Admissions Committee after the student has completed nine hours of graduate credit.

DEGREE REQUIREMENTS

The master's program requires a minimum of 33 semester hours beyond the baccalaureate degree. Completion of a formal thesis will be an option in both tracks. Students will be required to take 27 hours of course work in either option, including a minimum of 15 in mass communications and 12 in approved electives. The remaining six hours will be taken under this arrangement:

1. In the thesis option, a three-hour approved graduate elective course is required, plus a *three hour* thesis course. Candidates in this option will be tested covering course work and thesis defense.
2. In the non-thesis option, two additional three-hour approved graduate elective courses are required, followed by comprehensive written and oral examinations.

Electives under either arrangement will be approved in the interest of the candidates' individual needs.

For all candidates, a three-member examination/thesis committee will be formed, usually in the first full-time semester or equivalent, with a chairman and one member from the Department of Mass Communications and a third member from another appropriate department or school within the university. The committee chairman, in collaboration with the other members, will be responsible for advising students and will arrange for the written and oral examinations.

The Committee also will determine, after 12 hours of approved course work is completed, whether a recommendation for admission to candidacy will be made.

A maximum of six semester hours of graduate course work may be transferred, upon recommendation of the Graduate Committee.

Candidates are expected to indicate, at the beginning of their first semester either full-time or part-time, the track they intend to pursue.

Candidates in either track must take the three program core requirements, usually in this order:

- MAC 611 Research Methods
- MAC 612 Mass Communications Theory
- MAC 613 Mass Media and Society

For the media management track, the candidate must also take:

- MAC 617 Media Analysis
- MAC 618 Economics of the Media
- BUS 607 Financial Accounting
- BUS 620 Financial Concepts of Management

- BUS 633 Issues in Labor Relations
- BUS 640 Management Theory and Practice

For the professional track, the candidate must take, in addition to the three core courses, these mass communications courses:

- MAC 614 Media-Governmental Relations
- MAC 615 Urban Affairs Reporting

Candidates in both tracks must take approved graduate electives to total the required 33 hours.

GRADUATE COURSES IN MASS COMMUNICATIONS (MAC)

507 Newspaper Management. Semester course; 3 lecture hours. 3 credits. Newspaper operations from the standpoint of business and editorial supervision. A study of newspaper plants, advertising, circulation, and business.

508 Communications Law. Semester course; 3 lecture hours. 3 credits. Study of legal limitations affecting publishing, advertising, broadcasting, and telecasting, and legal philosophy and ethics relating to the media of communications.

525 Public Opinion. Semester course; 3 lecture hours. 3 credits. The formation, reinforcement, and change of opinions and of the role of major social and political institutions and the mass media in attitude change.

567 Broadcast Newsroom Management. Semester course; 3 seminar hours. 3 credits. Prerequisite: MAC 364. A study of studio organization, business demands, and managerial skills in operation of radio and television newsrooms from the standpoint of the news manager.

583 Advertising Management. Semester course; 3 lecture hours. 3 credits. Use of the problem-solving approach to management problems, organization of advertising departments, preparation of advertising budgets, and relations with advertising agencies.

611 Research Methods in Mass Communications. Semester course; 3 lecture hours. 3 credits. Fundamentals of mass communications research techniques (content analysis, survey research, experimental design, historiography), including an overview of computer applications, statistics, theory development, and trends in the published literature.

612 Mass Communications Theory. Semester course; 3 seminar hours. 3 credits. Nature, function, and application of mass communications theory; structure, content, and effects of media systems; social and technological events accounted for by a generalized theory of mass communications.

613 Mass Media and Society. Semester course; 3 seminar hours. 3 credits. A study of the mass media of the United States, with special attention on their historical development and their impact on other institutions. Consideration of ethical and legal aspects of the media, and problems such as access, control, and accountability.

614 Media-Governmental Relations. Semester course; 3 seminar hours. 3 credits. Study of the interaction between the media and the government, and the role of the press in the governmental process as a disseminator, opinionmaker, and adversary.

615 Urban Affairs Reporting. Semester course; 3 seminar hours. 3 credits. In depth examination of current urban problems such as air pollution, transportation, inter-city redevelopment, ghetto life, ecology, and metropolitan government.

617 Media Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAC 611. An examination of a mass medium through design and execution of a research project using one of the traditional research techniques of the field. Students will have major and minor projects for systematic study of a medium.

618 The Economics of the Media. Semester course; 3 seminar hours. 3 credits. Prerequisites: MAC 611 and 617. Advanced work in media research, especially from an economic viewpoint. Students working on individual basis will design and execute a major problem involving some economic aspect of a mass medium.

695 Independent Study and Readings. Semester course; 1-3 credits per semester. Prerequisite: permission of instructor and director of graduate studies. A maximum of three credits may be submitted toward the master's degree.

699 Thesis. 1-3 credits. May be repeated, but a maximum of three credits may be submitted toward the master's degree.

Department of Mathematical Sciences

The Department of Mathematical Sciences offers a program leading to a Master of Science degree with several possible areas of specialization.

The program offers maximum flexibility by allowing each student, in consultation with his or her graduate committee, to design a course of study which will best develop competence in those areas most relevant to his scholarly and professional objectives. This program consists of a minimum of 30 semester credits of which at least half must be at the 600 level. Each

student will select either the thesis or non-thesis option. The student who chooses the thesis option must write a thesis or report and pass an oral examination on his or her research. The student who elects the non-thesis option must pass a written examination and may be asked to take an oral examination. In addition to the general requirements for admission to graduate programs in the School of Arts and Sciences, the following requirements of the Department of Mathematical Sciences represent the minimum acceptable standards for admission:

1. Thirty semester credits in undergraduate mathematics, of which at least 18 semester credits must represent upper-level courses.
2. Three letters of recommendation pertaining to the student's potential ability as a graduate student in mathematics.
3. Graduate Record Examination scores, including those of the advanced mathematics examinations.

Provisional admission may be granted when deficiencies exist. These deficiencies must be removed by the end of the first year of residence, or its part-time equivalent, at which time the student's application will be re-examined. Courses which are remedial or designed to remove deficiencies will not be accepted for credit toward the fulfillment of the course requirements for the master's degree.

PROGRAM LEADING TO THE MASTER OF SCIENCE DEGREE IN MATHEMATICS

| Non-Thesis Option | Credits |
|--|---------|
| Mathematical Sciences | 21 |
| (Including both semesters of a 600-level continuous course) Mathematical Sciences or Allied Field ³ | 6-9 |
| Seminar Credits | 2-4 |
| Total (minimum) | 30 |
| Thesis Option | |
| Mathematical Sciences | 18 |

³To be determined by the student's graduate committee.

| | |
|--|-----|
| (Including both semesters of a 600-level continuous course) Mathematical Sciences or Allied Field ³ | 6-9 |
| Thesis Credits | 3-6 |
| Seminar Credits ⁴ | 0-3 |
| Total (minimum) | 30 |

Graduate students may also enroll in the following courses on the MCV Campus: stochastic processes and time series; advanced probability.

COURSES IN MATHEMATICS (MAT)

503 Intermediate Probability Theory. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 307 and 309. Fundamental concepts of the theory of probability. Random variables and probability distributions. Moments and moment generating functions. Functions of random variables, special probability distributions and their applications.

505 Modern Geometry. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 307. Corequisite: MAT 310. Topics in Euclidean, projective, and non-Euclidean geometries from a modern viewpoint.

507-508 Analysis I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: MAT 211, 307, and 310 or permission of instructor. Theoretical aspects of calculus, sequences, limits, continuity, infinite series, series of functions, integration, differential geometry.

509-510 General Topology I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 211. Foundations and fundamental concepts of point-set topology. Topological spaces, convergence, connected sets, compactness, product spaces, quotient spaces, function spaces, separation properties, metrization theorems, mappings, compactification.

511 Applied Linear Algebra. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 301 and 310. The algebra of matrices, the theory of finite dimensional vector spaces, and the basic results concerning eigenvectors and eigenvalues, with particular attention to applications.

512 Applied Complex Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 507 or 517. The algebra and geometry of complex numbers, analytic functions, integration, series, contour integration, analytic continuation, conformal mapping, with particular attention to applications.

515 Numerical Analysis I. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 301 and CSC 201. Solutions of equations, interpolation and approximations, numerical differentiation and integration, and numerical solution of initial value problems in ordinary differential equations. Selected algorithms will be programmed for solution on computers.

516 Numerical Analysis II. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 310 and 515. The solution of linear systems by direct and iterative methods, matrix inversion, the evaluation of determinants, and the calculation of eigenvalues and eigenvectors of matrices. Application to boundary value problems in ordinary differential equations. Introduction to the numerical solution of partial differential equations. Selected algorithms will be programmed for solution on computers.

517-518 Methods of Applied Mathematics. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 301. Vector analysis, matrices, complex analysis, special functions, Legendre and Hermite polynomials. Fourier series, Laplace transforms, integral equations, partial differential equations, boundary-value, and initial-value problems.

520 Game Theory and Linear Programming. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 310. The mathematical basis of game theory and linear programming. Matrix games, linear inequalities and convexity, the minimax theorems in linear programming, computational methods, and applications.

521 Intermediate Number Theory. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 305 and 401 or permission of instructor. Introduction to algebraic numbers and algebraic number fields with emphasis on quadratic and cyclotomic fields. Units, primes, and unique factorization. Discussion of diophantine equations and simple continued fractions to the extent that they apply to the above topics.

525 Introduction to Combinatorial Mathematics. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 211, 310, or permission of instructor. Introduction to the problems and methods of solution in the enumeration, existence, and construction of some discrete mathematical structures. Discussion of generating functions, recurrence relations, Ramsey's theorem, matching theory, combinatorial designs, latin squares, and linear coding theory.

601-602 Abstract Algebra I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 401. A study of algebraic structures (including groups, rings, and fields), Galois theory, homomorphisms, subalgebras, direct products, direct decompositions, subdirect decompositions, free algebras, varieties of algebras.

603-604 Advanced Probability Theory. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: MAT 508 and 503 or STA 513 or BIS 545. A measure-theoretic approach to the theory of probability. Borel

³To be determined by the student's graduate committee.

⁴Student is not required to take seminar. The student who elects to do so may receive a maximum total of six credits for thesis and seminar.

sets, probability measures, and random variables. Special topics include characteristic functions, modes of convergence, and elements of stochastic processes.

607-608 Real Analysis I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 508. The real number system, Lebesgue measure, functions of bounded variation, differentiation and integration, the L spaces, introduction to Banach and Hilbert spaces, general measure theory, and the Lebesgue-Stieltjes integral.

609 Topics in Topology. Semester course; 3 lecture hours. 3 credits⁵. Prerequisites: MAT 509-510 and permission of instructor. Special topics in topology selected from such subjects as advanced general topology, algebraic topology, topological algebra, and differential topology.

611-612 Complex Analysis I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 508. Elementary functions, analyticity, Cauchy's theorem and integral formula, Taylor and Laurent series, poles, residues, analytic continuation, Riemann surfaces, periodic functions, conformal mapping, and applications.

617-618 Applied Mathematics I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: MAT 517 and 518. Partial differential equations; equations of Helmholtz, Laplace, and Poisson; the diffusion equation, integral transforms, Green's function methods, calculus of variation, eigenvalues and eigenfunctions by variational methods, integral equations, Fredholm and Volterra equations, and Fredholm and Hilbert-Schmidt theories.

619 Operational Methods. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 508. Transform methods applied to existence theory, explicit solutions to problems of mathematical physics, distributions of Schwartz and Gelfand-Silov; kernel theorems of Schwartz, mathematical framework of quantum field theory.

620 Theory of Partial Differential Equations. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 301 and 508. Classification of partial differential equations; elliptic, hyperbolic, and parabolic equations; potential theory, techniques of solving various partial differential equations; applications to electrodynamics and solid mechanics.

621 Boundary Value Problems. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 517-518. Survey of boundary value problems, approximate analytic solutions such as Galerkin's method and the Ritz method; application to heat transfer, fluid mechanics, and potential theory.

631 Topics in Algebra. Semester course; 3 lecture hours. 3 credits.⁵ Prerequisites: MAT 601, 602, or

permission of instructor. A detailed study of one or more areas of modern algebra. Possible areas include: finite groups, infinite abelian groups, semigroups, non-commutative rings, and transcendental field extensions.

690 Seminar. Semester course; 1 credit. Prerequisite: graduate standing. Independent reading and study in selected areas of the mathematical sciences leading to an oral presentation by the students. May be repeated for credit.

691-692 Research and Thesis. Continuous course; 1-3 credits per course. Credits and hours to be arranged. Prerequisite: graduate standing. Independent research culminating in the writing of the required thesis as described.

GRADUATE COURSES IN COMPUTER SCIENCE (CSC)

500 Computer Methods for Research. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: one year of college mathematics. Introduction to programming in several computer languages including FORTRAN IV. Survey of applications packages such as SAS and SPSS. Each student's assignment will include applications programs in his major field. Not applicable toward M.S. degree in mathematical sciences.

501 Data Structures. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 202, 301, and 311. Basic concepts of data, list structures, strings, and arrays. Representation of trees and graphs. Storage systems and methods of storage allocation and collection. Multi-linked structures. Symbol tables, search techniques, and sorting techniques. Formal specification of data structures.

503 Programming Languages. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 202, 301, and 311. Formal definition of programming languages including specification of syntax and semantics. Precedence, infix, prefix, and postfix notation. Global properties of algorithmic languages. Sub-routines, co-routines, and tasks. List processing, string manipulation, data description, and simulation languages. Run-time representation of program and data structures.

504 Compiler Construction. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 501 and 503. Review of program language structures, translation, loading, execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler. Use of compiler writing languages and bootstrapping.

505 Computer Organization. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 311 and 312. Basic digital circuits. Boolean algebra and combinational logic, data representation and transfer, and digital arithmetic. Digital storage and accessing, con-

⁵May be taken twice for credit. Concurrent sections may be offered.

trol functions, input-output facilities, system organization, and reliability. Description and simulation techniques. Features needed for multiprogramming, multiprocessing, and real time systems. Other advanced topics and alternate organizations.

554 Applications of Computers in the Teaching of Mathematics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: a college calculus course or permission of instructor. Introduction to computers and programming using the language, BASIC. Applications of the computer in algebra, geometry, trigonometry, statistics, and calculus.

601 Systems Programming. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 501 and 505. A study of concepts and techniques of systems programming. Hardware concepts and technologies. I/O programming and interrupt processing.

602 Operating Systems. Semester course; 3 lecture hours. 3 credits. Prerequisite: CSC 601. A study of modern operating systems. Resource management including: processor management, memory management, device management, and information management. Multiprogramming, multiprocessing, timesharing, real time, and related concepts. System performance evaluation. Security.

615 Topics in Numerical Analysis. Semester course; 3 lecture hours. 3 credits⁵ Prerequisites: MAT 515-516, CSC 201, and permission of instructor. Special topics in computer methods for numerical analysis selected from such subjects as analysis of numerical methods for solving ordinary differential equations; elliptic, hyperbolic, and parabolic partial differential equations; solutions of large linear systems by iterative methods.

621 Computer Linguistics and Automata. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 301 and either CSC 504 or ENG 549 or permission of instructor. Languages and their representation, grammars, finite automata, turing machines, and operations on languages.

GRADUATE COURSES IN STATISTICS (STA)

513-514 Mathematical Statistics. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 307. Probability, discrete and continuous distributions, moment generating functions, limit theorems, estimation, decision theory and testing hypotheses, relationships in a set of random variables, linear models, and design.

523 Nonparametric Statistical Methods. Semester course; 3 lecture hours. 3 credits. Prerequisites: any two semesters of statistics or permission of instructor. Estimation and hypothesis testing when the form of the underlying distribution is unknown. One-, two-, and k-sample problems. Tests of randomness.

⁵May be taken twice for credit. Concurrent sections may be offered.

Kolmogorov-Smirnov tests. Analysis of contingency tables. Coefficients of association.

533 Applied Linear Regression. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 310 and any two semesters of statistics. An introduction to the concepts and methods of regression analysis, including simple linear regression and correlation, multiple regression and correlation. Application of the multiple regression model to the analysis of variance.

543-544 Statistical Methods. Continuous course; 2 lecture and 1 laboratory hour. 3-3 credits. Prerequisites: any two semesters of statistics or permission of instructor. Statistical methods including analysis of variance, regression, correlation, and distribution free methods. Includes use of statistical packages.

613-614 Stochastic Processes. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: MAT 503 and 508, STA 514 or BIS 545. Introduction to the theory and applications of stochastic processes. Random walks, Markov processes, queuing theory, renewal theory, birth-death, and diffusion processes. Time series, spectral analysis, filters, auto correlation. (Offered in conjunction with the biostatistics department.)

643 Topics in Statistics. Semester course; 1-3 lecture hours. 1-3 credits. Prerequisite: permission of instructor. A detailed study of selected topics in statistics. May be repeated for a maximum of six credits.

Department of Psychology

The Department of Psychology offers instruction in clinical, counseling, and general psychology leading to the Master of Science and Doctor of Philosophy degrees. The doctoral program in clinical psychology has been fully accredited by the American Psychological Association.

The clinical psychology program prepares the student for research and service in the clinical area. The counseling psychology program prepares the student for research and service in the counseling area. A student in either clinical or counseling psychology may elect courses in education as well as psychology that will make it possible for him to become certified as a school psychologist.

The program in general psychology prepares the student for either basic or applied research in physiological, learning, cognitive, developmental, and social psychology.

All three doctoral programs provide opportunities for selected students who are interested in college teaching to obtain special training and experience in that

activity. All three masters' programs prepare students for additional graduate study as well as for work in related areas.

The department maintains a number of research laboratories, an animal colony, a shop, and other research support facilities. The Psychological Services Center, operated by the department, is located on campus and serves as a clinical practicum facility.

An outstanding collection of current journals and books in psychology is housed in the James Branch Cabell Library on the Academic Campus and in the Tompkins-McCaw Library on the MCV Campus.

Research and teaching assistantships are available. The amount of the stipend is dependent upon the amount of service required.

All students are required to complete the core curriculum of 13 credits, which includes a course in either the biological basis of behavior or sensation and perception, a course in either learning or cognitive processes, and courses in applied statistics, experimental design, and professional problems.

Receipt of a grade of "C" or lower in more than one of the courses of the core curriculum disqualifies a student from additional graduate study. Additional courses will be chosen in consultation with an advisor appropriate to the student's field of interest.

The candidate must complete all requirements for a degree within a seven-year period from the date of his admission to the program.

Students are required to pass a comprehensive examination at the master's level and a preliminary examination at the doctoral level.

Admission requirements include:

1. Graduation with a bachelor's degree from an accredited college or university, but not necessarily with a major in psychology.
2. Eighteen hours of undergraduate course work in psychology which must include each of the following courses: general psychology, applied statistics, and experimental psychology. Exceptionally well qualified applicants with-

out sufficient work in the field may be permitted to complete the undergraduate course requirements at the beginning of their graduate study program.

3. An undergraduate record indicating superior academic potential.
4. Satisfactory performance on the Miller Analogies Test and the Graduate Record Examination, including the special psychology examination.
5. Three letters of recommendation from previous instructors.
6. A personal interview may be required at the discretion of the department.

Application forms for admission to graduate study, application forms for assistantships, and brochures describing the special programs of interest as noted above are available on request from the department. Applications should be filed early to permit review and to insure consideration.

The number of students who can be admitted is limited by the facilities and staff available. All students will be notified of the decision made. In the areas of clinical and counseling psychology, where the number of applicants is many times greater than the number that can be admitted, the screening process may begin as early as January 1. First offers of admission are made on April 1 and, by June 1, after other offers to alternates have been made and final acceptances by students have been received, admissions to clinical and counseling psychology may be closed. Because most of the openings must be reserved for beginning graduate students, relatively few applicants who already possess master's degrees can be admitted. In other areas of psychology where the number of applicants is not as large and the number of openings is larger, applications may be completed and processed up to July 1 for regular registration, but after that date for special registration only.

Transfer credits for graduate work at other institutions will be evaluated after the completion of nine semester hours in the department.

The residence requirement for the master's degree is normally 18 hours in two

semesters. Completion of the program usually requires three or four semesters.

The residence requirement for the doctoral degree is normally 36 hours in four semesters. Completion of the program usually requires three or four years.

With the consent of his program committee, a doctoral student may design a minor consisting of courses in departments other than psychology or courses in an area of psychology other than his major.

Practicum and internships will be required whenever these additional skills are consistent with the major emphasis of the student's program. Practicum credit will vary depending on the program. Internship will be without credit.

Before undertaking his dissertation a doctoral candidate must demonstrate either a reading knowledge in one foreign language or proficiency in computer programming. Credits for courses taken to prepare for or to satisfy the language or programming requirement do not count as course credits toward the degree.

All Master of Science candidates are required to complete a thesis and to defend it successfully in an oral examination. A dissertation requiring the planning, completion, and defense of an original research project is an integral part of the doctoral program.

GRADUATE COURSES IN PSYCHOLOGY (PSY)

501 Physiological Psychology. Semester course; 3 lecture hours. 3 credits. Data from the fields of anatomy and physiology are presented and their implications for psychology are discussed. Structure and function of the central nervous system, the internal environment, reflexes, emotional response, and the physiological viewpoint are studied.

503 Introduction to Psycholinguistics. Semester course; 3 lecture hours. 3 credits. Methodology and theory in studying human language behavior are introduced. Topics include the structure of communication, using language, language acquisition, and the role of language in thinking and remembering. The relation of language to other ways of communicating is discussed.

506 Perception. Semester course; 3 lecture hours. 3 credits. Historical development of perceptual problems in psychology. A survey of early and contemporary

major perceptual theories and related research with major emphasis on visual perception.

507 Abnormal Psychology. Semester course; 3 lecture hours. 3 credits. The development of personality is discussed with emphasis on factors leading to maladjustment. Lectures and readings cover the symptom groups of emotional disorders of both psychological and organic origin. Methods of assessing and treating these disorders are surveyed.

509 Personality. Semester course; 3 lecture hours. 3 credits. The study of the various approaches to understanding human behavior in terms of personality theory. Various theories will be examined for commonality and uniqueness in assumptions, structure, dynamics, and development of personality.

510 Principles of Learning. Semester course; 3 lecture hours. 3 credits. The major theories of learning are reviewed in terms of their usefulness in the light of current research findings. The application to practical problems of laboratory results is discussed.

511 Survey of Psychological Tests. Semester course; 3 lecture hours. 3 credits. Prerequisite: PSY 214. Concepts in psychological measurement and a survey of commonly used group tests; testing procedures and rationale underlying these tests; tests of intelligence, aptitude, achievement, interest, and personality critically examined, procedures described for selecting and evaluating specific group tests in these areas.

513 Psychology of the Arts and Artists. Semester course; 3 lecture hours. 3 credits. The meaning and function of the arts as a social and psychological phenomena. The personality of the artist and his sociocultural role. Psychological processes and experiences in producing the works of art. Emphasis on the graphic and plastic arts.

515 Animal Behavior. Semester course; 3 lecture hours. 3 credits. Review of methodology and data from ethology and comparative psychology. The course explores the effects of learning, motivation, social, and developmental factors on the behavior of organisms ranging from one-celled animals to primates.

524 Occupational Information and Career Development. Semester course; 3 lecture hours. 3 credits. Survey of current research. Methods of obtaining occupational information and uses of that information in counseling.

526 Child Psychopathology. Semester course; 3 lecture hours. 3 credits. Deviations from normal personality and emotional development. Major theoretical approaches to treatment of childhood disorders.

527 Psychology of the Handicapped. Semester course; 3 lecture hours. 3 credits. A survey of the handicapped person, with particular emphasis on the mentally retarded, crippled, cerebral palsied, and hard-of-hearing; extent and nature of the handicap; psychologi-

cal and emotional aspects; education, treatment, and rehabilitation.

530 Engineering Psychology. Semester course; 3 lecture hours. 3 credits. Theory and research related to man-machine-environment systems, their design and effectiveness. Human sensory processes as they relate to information input, human information processing, and human output activities. Application of knowledge in these areas to the design and use of mechanical systems and to man-machine system compatibility.

531 Industrial Safety. Semester course; 3 lecture hours. 3 credits. A comprehensive study of the principles and methods for the control and prevention of accidents adapted to the need of business and industry.

540 Principles of Vocational Counseling. Semester course; 3 lecture hours. 3 credits. The nature of the counseling interview. The relationship of aptitudes, abilities, interests, personality, and training to vocational behavior. The role of psychometrics in vocational counseling.

541 Selection and Classification. Semester course; 3 lecture hours. 3 credits. Study of principles of theory of psychological tests used in industry for selection and classification such as interviews and personal history.

550 Psychology of the Mentally Retarded. Semester course; 3 lecture hours. 3 credits. An analysis of the mentally retarded with special emphasis on the causes of retardation, psychological evaluation, diagnosis, and classification as well as training, education, and counseling with retardates. Also included are the problems of institutionalization and the training of workers in the field.

551 History and Systems of Psychology. Semester course; 3 lecture hours. 3 credits. The history of psychological ideas and theories emphasizing the origin and interrelationships of major viewpoints and systems from ancient Greece to the present.

601 Behavior Modifications. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing in psychology and permission of instructor. Group and individual approaches in these general areas will be emphasized; observational techniques; counterconditioning and extinction procedures; techniques of positive and negative control; self-control procedures; use of modeling and role-playing at change techniques; behavioral feedback and cueing procedures.

603 Developmental Processes. Semester course; 3 lecture hours. 3 credits. Applications of scientific methods to the study of the child. Special attention is given to maturation and learning in early childhood and to cognitive, social, and emotional development from early childhood to adolescence. Consideration is also given to behavior theory and theories of personality as they apply to the infant and the child.

604 Social Psychology of Business and Industry. Semester course; 3 lecture hours. 3 credits. The theme is the influence of organizational structure on behavior. Topics will include motivation, attitudes, job satisfaction, morale, leadership, and supervision.

605 Advanced Vocational and Educational Guidance. Semester course; 3 lecture-seminar hours. 3 credits. Recent developments in theory, research, and practice related to counseling psychology.

606 Theory and Measurement of Interests. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Major theories of the development of interests. Theoretical and research foundations of the principal inventories of occupational interests. Administration, analysis, reporting, and application in counseling.

607 Advanced Educational Psychology. Semester course; 3 lecture hours. 3 credits. Application of the principles of psychology to the teaching-learning process. Discussion will focus on the comprehensive development of individual learning experiences and educational programs from the point of view of the educator and the administrator.

608 Individual Tests of Intelligence. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing in psychology and consent of chairman of the department. The administration, scoring, interpretation, and research foundations of the major individual tests of intelligence, with emphasis on the Wechsler scales and the Stanford-Binet.

609 Design of Psychological Experiments. Semester course; 2 lecture and 2 laboratory hours. 3 credits. The application of analysis of variance, randomization tests, analysis of ranks, and chi square to designs involving random groups, matched groups, repeated treatment, and repeated measurement, where the dependent variable is behavioral.

610 Attitude Theory and Methods. Semester course; 3 lecture hours. 3 credits. Theory and methodology of attitudes and attitude measurement. Attitude formation and change, including cognitive consistency, learning and reinforcement, social judgment, and functional theories. Basic research methodology.

613 Clinical Assessment I. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing in clinical psychology and permission of instructor. Major objective personality and brain-damage assessment methods are intensively analyzed from the standpoint of research foundations and clinical utility. Interview methods are presented. Emphasis is placed on the analysis of data from test and non-test sources, and on integrative report writing.

614 Clinical Assessment II. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing in clinical psychology and permission of instructor. The administration, scoring, and interpretation of projec-

tive personality tests, with emphasis on the Rorschach and TAT. Integration of projective test data as a basis for decisions in the psychological evaluation.

616 Psychopathology. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Clinical and experimental contributions to the field of psychopathology, with particular attention to the roles of learning and motivation in the development of behavior disorders.

617 Sensation and Perception. Semester course; 3 lecture hours. 3 credits. The major phenomena of vision, audition, olfaction, gustation, and the skin senses. Psychophysics and the effects of sensory deficits. The relationship of variations in environmental energy to the psychological reactions of sensing and perceiving.

618 Seminar in Personality. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. A detailed exploration of various approaches in personality. Contemporary issues in personality theory.

619 Seminar in Learning. Semester course; 3 lecture-seminar hours. 3 credits. The major problem areas, methodology, and theories of learning are reviewed. Included are measurement techniques, drive and reinforcement, conditioning, memory, and other cognitive processes.

620 Selected Topics. Semester course; 3 lecture-seminar hours. 3 credits. Prerequisite: permission of instructor. Theory, research, and techniques in specialized topics of current interest are presented. May be repeated.

621 Seminar in Motivation. Semester course; 3 lecture hours. 3 credits. A survey of some theoretical views of motivation. Biological, cultural personality, and learning theories of motivation will be covered. Theoretical positions will be related to current empirical findings.

623 Counseling and Psychotherapy. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Exploration of major trends in psychotherapeutic techniques and current research. Principles of therapy applied to personal, social, vocational, and educational problems.

627 Statistics in Psychological Research. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Applications of descriptive and inferential statistics including significance testing and parameter estimation in empirical and experimental research on human and animal behavior.

628 Cognitive Processes. Semester course; 3 lecture-seminar hours. 3 credits. Theory and research in complex human behavior such as speech perception, memory, language structure and function, problem solving, decision making, and information processing.

629 Biological Basis of Behavior. Semester course; 2 lecture-seminar and 2 laboratory hours. 3 credits. Theory and current experimental research on the physiological and neurological concomitants of behavioral variables.

630 Social Psychology. Semester course; 3 lecture-seminar hours. 3 credits. Topics includes attitudes, social influence processes, person perception, affiliation and attraction, group processes, cultural influences on behavior, and conformity.

631 Seminar in Psycholinguistics. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Theory and hypotheses regarding cognitive processes based on studies of language behavior. Language structure as related to its human functions. Language acquisition and the developing brain. Comparison of language to other systems which represent and communicate.

636 Counseling Practicum. Semester course; one half day per credit. 1-3 credits. A series of training experiences designed to facilitate progressively greater degrees of skill development in counseling psychology. Available only to graduate students in counseling psychology approved by the counseling program committee. May be repeated for a maximum of 10 credits.

637 Seminar in Research Problems. Semester course; 3 lecture hours. 3 credits. An intensive investigation of a specialized research area. Examples include delayed response problems in primates, systematic desensitization in the treatment of phobias, effects of drugs on avoidance learning. Emphasis on techniques and organization of past empirical findings and theoretical formulations. May be repeated for credit.

639 Instrumentation and Circuit Design in Behavioral Science. Semester course; 2 lecture and 2 laboratory hours. 3 credits. A basic course in the design and application of electrical and electronic circuits used in behavioral sciences. Both data collecting and environmental programming devices will be covered.

640 Clinical Practicum. Semester course; one half day per credit. 1-3 credits. The graduate student in clinical psychology is given an opportunity to apply and practice interviews and diagnostic and therapeutic skills with clients requiring psychological services. Careful supervision and evaluation of the student is provided. The practicum may be located in a clinic on campus or in a hospital or other agency off campus. Available only to graduate students in clinical psychology approved by the clinical program committee. May be repeated for a maximum of 12 credits.

643 Principles of Psychological Measurement. Semester course; 1 lecture hour. 1 credit. Prerequisite: graduate standing in psychology or permission of instructor. Basic psychometric concepts to prepare the student for subsequent evaluation instruments. Origins

and logic of testing, criteria for judging tests, standardization and reliability, and validity and principles of test development and construction.

644 Assessment of Human Intelligence. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Prerequisite: graduate standing in clinical psychology or permission of clinical program committee and instructor. Theory and administration of intelligence tests. Laboratory requires supervised administration, scoring, interpretation, and written reports of individually administered tests of intelligence.

645 Objective Assessment of Psychopathology. Semester course; 1 lecture hour. 1 credit. Prerequisite: graduate standing in clinical psychology or permission of clinical program committee and instructor. Use of objective tests in personality assessment with special emphasis on the clinical interpretation of the Minnesota Multiphasic Personality Inventory (MMPI).

646 Projective Techniques. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing in clinical psychology or permission of clinical program committee and instructor. Projective devices for the assessment of personality. Supervised administration, scoring, interpretation, and written reports of individually administered projective personality tests.

647 Neuropsychological Assessment. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Prerequisite: graduate standing in psychology or permission of instructor. Psychological assessment of brain-behavior relationships in the context of neurological or neurosurgical problems. Emphasis is on current modifications of Halstead's tests and on the Reitan-Indiana Neuropsychological Battery for younger children. Laboratory requires supervised administration, scoring, and interpretations of neuropsychological test batteries.

648 Idiographic Assessment of Clinical Problems. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Prerequisites: PSY 643 and graduate standing in psychology or permission of clinical program committee and instructor. Self monitoring, independent observation, and psychophysiological assessment, as they relate to behavioral formulations of clinical problems. Laboratory requires supervised behavioral codings and written reports. General procedures for psychophysiological assessment will be demonstrated.

649 Clinical Assessment of Child Disorders. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: PSY 643, 644 and graduate standing in clinical psychology or permission of clinical program committee and instructor. Administration and interpretation of intellectual and personality assessment instruments for children. Laboratory requires supervised administration, scoring, interpretation, and written reports of these assessment instruments.

670 Seminar in Gestalt Therapy. Semester course; 3 seminar hours. 3 credits. Prerequisite: permission of

instructor. Philosophical basis, historical background, theoretical formulations, techniques, and application of Gestalt therapy. Students will have the opportunity to practice and observe the techniques.

671 Readings and Research. Semester course. 1-3 credits. Prerequisite: written permission of instructor. Individual study leading to the investigation of a particular problem in systematic fashion under the supervision of a member of the faculty. May be repeated for a maximum of nine credits.

675 Current Problems in Psychology. Semester course; 1 lecture hour. 1 credit. A discussion of some of the current problems of interest to psychologists with particular emphasis on scientific publication, professional organizations, and ethics.

677 Internship. No credit. Prerequisite: approval of the director of clinical training. The internship is a one-year, full-time assignment, under supervision, to an agency approved by the student's program committee.

701 M.S. Thesis. 1-6 credits. May be repeated.

703 Ph.D. Dissertation. 1-12 credits. May be repeated.

Department of Sociology and Anthropology

The Department of Sociology and Anthropology offers a program leading to the Master of Science degree with specializations in theory, methodology, criminology and deviant behavior, complex organization, industrial sociology, medical sociology, urban sociology, family, and social demography.

Students enrolled in the graduate program in sociology at VCU may select one of three graduate program degree options leading to an M.S. degree in sociology. The three options, described at the end of this section, are differentiated by thesis, non-thesis, and pre-Ph.D. requirements.

THESIS OPTION

The thesis option is primarily designed to serve students who plan to enroll in a doctoral program and wish to gain first-hand exposure to the research process. This option is also recommended for students who plan to enter fields where evaluation and conduct of research is essential. Stu-

dents choosing this option will be required to publicly defend a proposal of their thesis. The function of the defense is to help students identify problems in their research design and to improve the quality of their thesis through an interchange of ideas.

NON-THESIS OPTION

The non-thesis option is primarily designed to serve students who do not anticipate going beyond the master's degree in terms of formal education. This option may be appropriate for students who plan to embark on a teaching career in a community college, junior college, or secondary school. Individuals currently employed or planning careers in public or private agencies may also find this program suitable. Students electing this option are required to publicly defend a proposed research project before the department. The purpose of this defense is to insure that students have an adequate appreciation of the research process.

PRE-PH.D. OPTION

The pre-Ph.D. track is designed to accelerate the progress of students who are definitely committed to obtaining a doctorate in sociology or a related field. Students who elect this track must demonstrate a high level of achievement in required courses and comprehensive examinations and should attempt to gain as much exposure to ongoing research as possible while enrolled at VCU.

TRANSFER CREDIT

a. Six hours of sociology/anthropology transfer credit from other schools may be accepted toward a degree pending approval of the graduate program committee.

b. Six hours of graduate credit from other VCU departments may be acceptable towards a degree pending approval of the graduate program committee.

All sociology courses are offered in the evening schedule.

Optional Requirements

| | <i>Course Work</i> | <i>Required Courses</i> | <i>Comprehensive Exam</i> | <i>Other Requirements</i> |
|------------------|---------------------------------------|-------------------------|---------------------------|--|
| Thesis Track | 24 Hours +6 Hours thesis credit | 601, 602, 608 | Required | Thesis proposal defense, submission of acceptable thesis |
| Non-Thesis Track | 36 Hours | 601, 602, 608 | Required | Acceptable public presentation of a research proposal |
| Pre-Ph.D. Track | 30 Hours | 601, 602, 608, 622 | Required | Six hours of acceptable transferable graduate credit in approved courses taken while enrolled in any approved Ph.D. program. |

GRADUATE COURSES IN SOCIOLOGY (SOC)

548 Drug Dependence: Sociological and Pharmacological Aspects. Semester course; 3 lecture hours. 3 credits. Prerequisites: SOC 101 or PMC 300 or permission of instructor. This course will treat the behavioral pharmacological effects of drugs and the impact of drugs and drug users on societies from a sociological point of view. Interdisciplinary in nature, the course will involve primarily the Departments of Pharmacology and Sociology/Anthropology.

600 Advanced Principles of Sociology. Semester course; 3 lecture hours. 3 credits. A comprehensive analysis of the concepts and techniques useful for understanding society and culture as well as the social processes and structures operant within these spheres.

601 Advanced Methods of Social Research. Semester course; 3 lecture hours. 3 credits. Prerequisites: SOC 214 and 320 or equivalent. Research as a systematic process involving formulation of the problem, design of the research, field operation, the processing and analysis of data, and preparation of the research report.

Also considered are critical analyses of current methods, administration of research projects, and the significance of research to social action.

602 Seminar in Sociological Theory. Semester course; 3 lecture hours. 3 credits. A graduate level seminar emphasizing contemporary sociological theories.

603 Seminar in Population Studies. Semester course; 3 lecture hours. 3 credits. Analysis of fertility, mortality, and migration from a sociodemographic perspective. Special attention will be paid to sociological determinants of demographic processes and their interrelationships.

604 Sociology of Work in Industry. Semester course; 3 lecture hours. 3 credits. Analyses of work relations and the social structures and mechanisms which govern and arise out of them and examination of the social problems that are inherent in the characteristics that make a society an industrial society.

607 Seminar in Racial and Ethnic Relations in America. Semester course; 3 lecture hours. 3 credits. A study of inter-group relations in such areas as busing and school desegregation, racism, minority separatist movements, ethnic-racial violence, minorities and athletics, the emergence of white ethnic groups in the political systems, and the position of minorities in legal, economic, and medical institutions.

608 Advanced Statistical Methods. Semester course; 3 lecture hours. 3 credits. Prerequisites: SOC 214 and 320 or equivalent. A discussion of statistical methods related to sociological research. The statistical techniques include correlation and regression, multiple correlation, and multiple regression, T test, one- and two-way analysis of variance, non-parametric statistical techniques—especially PRE measures.

609 Seminar in the Family. Semester course; 3 lecture hours. 3 credits. Analysis of contemporary family life with an emphasis on the influence of social change. Consideration of current family crises and problems.

610 Complex Organizations. Semester course; 3 lecture hours. 3 credits. A study of complex organizations in society with emphasis on the determinants and effects of organizational structure and process.

611 Studies in the Community. Semester course; 3 lecture hours. 3 credits. The organization of the community with emphasis on major trends in urban development and growth. The interdependence of political, social, and economic geographic units. The need for cooperative planning and control.

612 Seminar in the Sociology of Deviant Behavior. Semester course; 3 lecture hours. 3 credits. The nature and functions of deviance. Theories and problems of social control.

613 Social Stratification. Semester course; 3 lecture hours. 3 credits. An in depth analysis of status

differentials in society (e.g. social class, prestige, and power).

614 Seminar in the Sociology of Education. Semester course; 3 lecture hours. 3 credits. A sociological analysis of education as a social institution with an emphasis on methodological issues and policy implications.

615 Seminar in Mass Communications. Semester course; 3 lecture hours. 3 credits. A sociological analysis of contemporary media and their interrelationships with social systems, media, and national development. Special emphasis on media as instruments of social and cultural change. (Some theoretical background in sociology is recommended.)

616, 617 Independent Study and Reading. Semester course. 1-3 credits per semester. Prerequisites: permission of an instructor and the Graduate Program Committee. A maximum of six credits may be submitted toward the master's degree.

620 Seminar in Criminology. Semester course; 3 lecture hours. 3 credits. Discussion and investigation of contemporary issues in criminology. Special emphasis on research problems in and theories of crime causation.

622 Theory Construction. Semester course; 3 lecture hours. 3 credits. A consideration of recent social theorists in which emphasis is placed on the logic of theory construction.

625 Urban Sociology. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing. A detailed analysis and examination of the social and ecological structures and processes of the modern city with primary emphasis on the macro-level organization of urban life.

630 Social Psychology. Semester course; 3 lecture hours. 3 credits. Discussion and investigation of selected social psychological issues in sociology, as well as traditional and innovative methodology applied to these issues.

640 Seminar in Political Sociology. Semester course, 3 lecture hours. 3 credits. Analysis of structures and processes of political organization. Examination of the creation and management of power, diffusion and regulation of conflict, and the politics of modernization and bureaucratization.

645 The Sociology of Health and Illness. Semester course; 3 lecture hours. 3 credits. An examination of socio-cultural factors in health and illness and the influence of social factors on recovery and rehabilitation. Special attention will be paid to the methodology found in current studies.

698, 699 Topical Seminar. Semester courses; 3 lecture hours. 3 credits. Seminars on current specialized areas of sociological and anthropological interest.

701, 702 Thesis. 1-3 credits per course. May be repeated.

ADDITIONAL GRADUATE COURSES AVAILABLE IN THE SCHOOL OF ARTS AND SCIENCES

FRE 500 French for Graduate Students. Semester course; 3 lecture hours. 3 credits. This course is designed to prepare graduate students for the reading knowledge examination for higher degrees. Each graduate department will determine the nature and form of the certifying examination.

GER 500 German for Graduate Students. Semester course; 3 lecture hours. 3 credits. This course is designed to prepare graduate students for the reading knowledge examination for higher degrees. Each graduate department will determine the nature and form of the certifying examination.

HIS 697 Directed Independent Study. Semester course. 1-3 credits. Maximum of 6 credits. Prerequisite: permission of chairman of Department of History and of director of graduate studies in department in which student is pursuing graduate work. For students in English/English Education or other graduate programs to analyze an historical problem or topic in depth under faculty supervision.

PHI 508/RST 508 Indian Tradition. Semester course; 3 lecture hours. 3 credits. A systematic analysis of the major theories of Indian religious and philosophical thought: Vedas, Upanishads, Gita, Charvaka, Jainism, Buddhism, the six systems of Hinduism, and contemporary developments.

PHI 510/RST 510 The Chinese Tradition in Philosophy. Semester course; 3 lecture hours. 3 credits. A study of the development of Confucianism, of alternative ways of thought prior to the fall of the Han Dynasty, and of neo-Confucianism. The systems of thought are examined in the light of their social, political, and religious impact on China, Korea, and Japan.

PHI 512/RST 512 Buddhism in East Asia. Semester course; 3 lecture hours. 3 credits. A survey of the development of Buddhism in China, Korea, and Japan, the formation of the various schools in each country, and their role in the molding of Far Eastern culture.

PHI 521, 522 Aesthetics. Semester courses; 3 lecture hours. 3, 3 credits. A critical survey of aesthetics from antiquity to the twentieth century. First semester:

antiquity to the Renaissance; Second semester: the Renaissance to the present. Topics to be considered include: the nature of art, aesthetic experience, the aesthetic object, and aesthetic judgments. Specific attention will be given to aesthetic analysis in the arts of painting, music, architecture, and the motion picture.

PHI 530 Philosophy of Religion. Semester course; 3 lecture hours. 3 credits. An introduction to the major problems and questions of religion and reason. Special reference will be made to the nature of God, the nature of man, the problem of evil, the source of good, immortality, and the basis of authority.

PHY 571 Theoretical Mechanics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 337 and MAT 301 or permission of instructor. An introduction to advanced dynamics involving the Lagrangian and Hamiltonian formalisms.

PHY 576 Electromagnetic Theory. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 362 and MAT 301 or permission of instructor. Maxwell's equations of electromagnetism, vector and scalar potentials, electromagnetic waves, and radiation theory.

PHY 580 Quantum Mechanics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 351, MAT 301, or permission of instructor. Theoretical quantum descriptions with emphasis upon mathematical techniques. Schrodinger equation, hydrogen atom, eigenfunctions and eigenvalues, angular momentum and spin, and perturbation theory.

POS 553 The Military in Politics. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. The course will examine the pervasive character and growing importance of the military in the governmental and policymaking processes. It will include a study of the history of civil-military relations, and of the changing dynamics of the relationship that occurs in response to changes in social and political contexts and as a result of technological changes in the military and warfare.

POS 660/PAD 660 Community Power Dynamics. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of department. Examination of the location of power in the American community; operational concepts and general methodological approaches defined; empirical findings based on various methodological approaches; conclusions on community political systems and power.



BIOMEDICAL INSTRUMENTATION
LABORATORY

AMINO-CHANCE DW-2
UV-VIS SPECTROPHOTOMETER



School of Basic Sciences

HISTORY

Basic sciences have historically been an integral part of the curriculum of medicine, dentistry, pharmacy, nursing, and allied health fields. In the earlier years of the university, the basic sciences departments were administered by the School of Medicine with the dean of that school working with a committee of deans to establish policy for the teaching of the basic sciences in the several professional schools. In 1966, by the action of the Board of Visitors, a separate School of Basic Sciences and Graduate Studies was established and a dean was appointed as administrative head of the school. In 1974, with the establishment of a university-wide graduate program, it became the School of Basic Sciences. The Ph.D. programs at VCU continue to be administered through the dean of the School of Basic Sciences who serves as chairman of the MCV Graduate Committee.

PROGRAM

All departments in the School of Basic Sciences provide instruction in their disciplines for students in the other schools on the MCV Campus. By developing large, strong departments with a good balance of faculty, post-doctoral fellows, and graduate assis-

tants, it is possible to provide quality instruction for all the health profession schools, and to maintain strong research, M.S., and Ph.D. programs; including combined M.S. or Ph.D.; M.D. or D.D.S. programs.

PH.D. AND M.S. PROGRAMS IN THE SCHOOLS OF BASIC SCIENCES, MEDICINE, AND PHARMACY

The graduate programs in the Schools of Basic Sciences, Medicine, and Pharmacy at the Medical College of Virginia are under the supervision of a Graduate Committee which is composed of one faculty member from each department offering graduate degrees. The dean of the School of Basic Sciences serves as chairman of this committee, and assumes the administrative responsibilities for admission, curriculum, and awarding of degrees.

The current membership of this committee is: Dr. Hugo R. Seibel, anatomy; Dr. Edwin S. Higgins, Biochemistry; Dr. W. Hans Carter, Jr., biostatistics; Dr. Alex Clarke, biophysics; Dr. Walter E. Nance, genetics; Dr. Phillip B. Hylemon, microbiology; Dr. William L. Dewey, pharmacology; Dr. Alfred J. Szumski, physiology; Dr. George W. Gander, pathology; Dr. James F. Stubbins, pharmaceutical chemis-

try; and Dr. John H. Wood, pharmacy and pharmaceuticals. Committee members are appointed by their respective deans upon the recommendation of the department chairmen. The committee meets monthly, or more often if necessary and establishes and maintains admission requirements and rules and procedures for awarding the M.S. and Ph.D. degrees. Courses to be offered for graduate credit in these schools must have the approval of this committee, following the rules and guidelines established by the University Graduate Council.

REQUIREMENTS FOR ADMISSION

1. The purpose of admission requirements and procedures is to encourage applications from competent students and to insure selection of those whose motivation, ability, education, character, and health qualify them to pursue successfully graduate study in preparation for a scientific career.

2. To be considered for admission in graduate studies, all applicants must have earned a Baccalaureate degree or its equivalent at the time of enrollment. Additional entrance requirements for specific programs of graduate study are stipulated by the departments.

3. The following credentials constitute an application and should be sent to the Dean, School of Basic Sciences, Medical College of Virginia, Virginia Commonwealth University, MCV Station, Box 175, Richmond, Virginia 23298.

- A. Application for admission on a form furnished to the applicant on request;
- B. Official transcripts of all undergraduate and graduate records, sent directly from the college or university registrars to the office of the dean;
- C. Letter or letters of recommendation from a teacher(s) who can evaluate the applicant's ability to carry out graduate study;
- D. A personal letter from the applicant summarizing his motivation, education, and aims in pursuing graduate study;
- E. A recent photograph, passport size;
- F. Verbal and quantitative portions of

the graduate record examination are required. Advanced tests (biology, chemistry, physics, or mathematics) are recommended where appropriate. Scores are to be sent to the dean. (For information on this examination, write to: Educational Testing Service, Box 955, Princeton, New Jersey 08540).

Foreign applicants who do not use English as their natural language must have a minimum TOEFL score of 550.

4. Acceptance of an applicant rests with the dean upon recommendation of the chairman of the major department.

REGISTRATION

While most students register for the first semester, beginning in August, arrangements may be made to initiate graduate work at other times during the academic year.

SCHOLARSHIPS, ASSISTANTSHIPS, AND FELLOWSHIPS

Graduate students may apply for a number of state or federal teaching assistantships, scholarships, or fellowships, including the A. D. Williams fellowships (college endowment). These usually pay \$3,000-3,900, plus tuition on a calendar year basis.

THE STUDENT'S ADVISOR AND GRADUATE COMMITTEE

Each student shall have an advisor and a graduate committee.

1. Appointment and duties of the advisor:
 - A. The advisor shall be appointed by the dean upon the recommendation of the chairman of the student's major department. Appointment should be made as soon as possible after acceptance and, in any case, before registration. A change in advisor may be made by the dean upon recommendation of the chairman of the major department.
 - B. The advisor shall be chairman of the student's graduate committee.
 - C. The advisor shall, with the

- graduate committee, have responsibility for the general guidance of the student.
- D. The advisor shall work out a plan of study with the student.
 - E. The advisor shall supervise the student's research work and thesis preparation and be one of the examiners of the thesis.
 - F. The advisor shall, at the close of each academic year, submit to the dean's office a statement covering progress of the student and recommendations as to whether his graduate studies should be continued.
2. Appointment and duties of the graduate committee:
- A. The student's graduate committee shall be appointed by the dean upon recommendation of the student's advisor. Changes in the membership of the committee will be made in the same way. The committee for the Ph.D. candidate shall consist of a minimum of five members as follows: the student's advisor, two representative members of the graduate faculty of the department in which major work is to be taken, and at least two other representatives of the graduate faculty outside the major department (where feasible, from two different departments).

The committee for the M.S. candidate shall consist of a minimum of three members as follows: the student's advisor, one representative member of the graduate faculty of the department in which major work is to be taken, and one representative of the graduate faculty outside of the major department.

The composition of the graduate committee shall be such that all significant areas of the student's course work are represented. For the purpose of examinations and thesis evaluation, an additional member may be appointed to the graduate committee by the dean.

- B. The graduate committee shall work with the student's advisor in guiding the student's graduate program.
 - C. The graduate committee shall recommend and approve a degree program (including foreign language requirements) for the student as soon as practicable. The final M.S. degree program should be filed with the dean's office no later than the beginning of the second semester of study; for the Ph.D. degree no later than the beginning of the third semester of study.
- In approving a foreign language, the graduate committee is guided by the importance of that language in the scientific literature of the student's major subject.
- D. The student's graduate committee shall conduct his oral comprehensive and final examinations and act as moderators for his thesis.

REQUIREMENTS FOR GRADUATE DEGREES

1. All full-time graduate students are expected to register for a minimum of 12 semester hour credits per semester, including research. As an example, when a student is registered for seven credits in formal courses, he is expected to undertake five credits research under his advisor or other approved faculty member.

2. The grading system shall be that indicated on page 18 with the following additions or alterations.

- A. The grade for research shall be "P" or "F."
- B. No student may take the comprehensive examination if his *overall* quality average is less than 2.5 or if his quality point average for courses within his major department is below 3.0.
- C. Students making a grade of "D" or "F", or who fail to pass written or oral comprehensive examinations, or thesis, or final examinations require a recommendation by their graduate committee and approval of the MCV

Graduate Committee to continue in their programs.

3. Each foreign language examination shall be given by an examiner approved by the dean. The dean may elect to accept, as evidence of satisfactory foreign language knowledge, a comparable examination at another graduate school.

4. Five or more copies of the thesis (as required) prepared according to standards approved by the school's graduate committee, shall be sent to the student's graduate committee in final form three weeks or more before the date of graduation. (Graduation dates are in May, August, and December.) These copies are to be submitted in temporary binders. Following acceptance of the thesis and passing of the final examination, it shall be the responsibility of the candidate to have five copies of the thesis suitably bound.

5. The dean will recommend the granting of a degree, only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the bound copies of the thesis. Degrees are not granted *in absentia* unless specific written request is made to the dean and permission granted by him.

MASTER OF SCIENCE

1. A minimum of 24 credit hours, exclusive of research credits, are required for the Master of Science degree. Not more than one-third of these credits may be transferred from another institution and applied to the degree. A time limit of five calendar years, beginning at the time of first registration, is placed on work to be credited toward the Master of Science degree.

2. Each department at its own discretion, may stipulate one foreign language requirement for the master's degree. It is strongly recommended that the student satisfy the foreign language requirement as soon as possible after beginning his program. He must do so at least two months before submission of the thesis.

3. Each student conducts a research study under the guidance of his advisor. This study is reported in a thesis, prepared in acceptable form and style. On approval of the thesis by the advisor, the student

submits five or more copies as required to his graduate committee.

4. The thesis is examined by the student's graduate committee members acting as moderators. The dean may appoint one additional moderator from the faculty of the MCV Campus or some other institution. An external moderator is selected by reason of his special knowledge and distinction in the field of the candidate's work.

5. Each moderator shall receive a copy of the candidate's thesis and shall decide on its acceptability. The moderators may confer with each other before making their decision. Each moderator shall report to the dean through the student's advisor that the thesis is acceptable. The thesis is approved only if the moderators accept it unanimously.

6. On approval of the thesis, the student appears for a final oral examination by the advisor and the thesis moderators. The final examination shall be open to the faculty and its time and place—together with the candidate's name, department, and title of thesis—shall be announced at least seven days in advance.

8. A favorable vote of the graduate committee with no more than one negative vote shall be required to pass the oral examination. All members of the committee and the dean or a faculty member representing him will attend the examination and will cast a vote.

9. The candidate, having fulfilled all the requirements for the Master of Science degree, is recommended to the president for the degree.

DOCTOR OF PHILOSOPHY

1. Advanced graduate study leading to the Doctor of Philosophy degree is offered in the Departments of Anatomy, Biochemistry, Biophysics, Biostatistics, Genetics, Microbiology, Pathology, Pharmaceutical Chemistry, Pharmacy and Pharmaceutics, Pharmacology, and Physiology.

2. At least two years in residence are required for students holding the M.S., M.D., or D.D.S. degrees and at least three years for those with the baccalaureate degree only. A first time limit of seven calendar years, beginning at the time of first

registration, is placed on work to be credited towards the Doctor of Philosophy degree.

3. A student becomes an applicant for the doctorate when he has been admitted as such to graduate studies. No assurance is given that he will become a candidate for the Ph.D. degree until he has given evidence of superior scholarship.

Before admission to candidacy for the doctorate, the student must have satisfied the language requirements and completed required course work; he must have passed the comprehensive written and oral examinations also. A student is admitted to candidacy by the dean upon recommendation of his advisor and his graduate committee, with the approval of his major department.

4. The student must satisfy an examiner or examiners approved by the dean that he has a reading knowledge of a minimum of one foreign language. (Each department has the option of requiring a second language if it chooses.) It is strongly recommended that the student satisfy the foreign language requirement as soon as possible after beginning his program. He must satisfy this requirement at least two months before the written comprehensive examination can be taken.

5. Upon satisfactory completion of all required, formal course work and successful passing of his foreign language examination(s), the student takes written and oral comprehensive examinations. The written examination is administered by the student's major department. The student's committee may require that he have a minor field of study, in which case he will also take a written comprehensive examination given by that department. In the event of failure in the written comprehensive examination in the major or minor department, the student, with the approval of the MCV Graduate Committee may be permitted to repeat the written examination in the department in which the failure occurred.

After successfully passing the written examination(s), the student will take the oral portion within one month. This examination is conducted by the student's graduate committee. A favorable vote of the graduate committee with no more than one negative

vote (all members being required to vote) shall be required to pass the oral portion of the comprehensive examination. The dean or a faculty member representing him will attend all oral examinations and will cast a vote.

If a student passes the written comprehensive examination, but fails the oral part, he may be re-examined only in the oral part with the approval of the MCV Graduate Committee.

The oral comprehensive examination is open to all members of the faculty. Faculty members in attendance may ask questions of the candidate, but their questions shall not be presented until after the graduate committee has completed its questions. Faculty members other than those on the committee shall not vote on the success or failure of the candidate. The time and place of the examinations shall be posted at least seven days in advance.

The examination must be successfully completed at least six months before submission of the dissertation.

6. The student must conduct a substantial original investigation under the supervision of his advisor and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

7. When the dissertation has been completed, five copies, or more as required, in acceptable form and style are submitted to the members of the Graduate Committee who act as moderators for the dissertation. These moderators decide upon the acceptability of the candidate's thesis. A favorable unanimous vote is required to approve the dissertation and all examiners are required to vote. When the committee finds the dissertation acceptable and all other degree requirements are satisfied the advisor notifies the dean.

8. If the moderators accept the dissertation, the candidate appears before them for a final oral examination. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's moderators, and no more than one negative vote, shall be required for

passing the final oral examination. All moderators must vote. The dean or a faculty member representing him will attend all oral examinations and cast a vote. There shall be prior announcement of the candidate's name and department, and title of dissertation, together with the day, place, and hour of the final oral examination at least seven days in advance.

9. The candidate, having fulfilled all of the requirements for the degree of Doctor of Philosophy, is recommended to the president for the degree.

SPECIAL STUDENTS

Students who are not applicants for any particular degree may be admitted for an individual course. Permission to register for the course must be obtained from the instructor or department concerned. Employees who qualify may register for a single course per semester.

SUMMER REGISTRATION

Most graduate students devote 10 or more weeks during the summer to full-time research. Students registered for research credit are billed at the established tuition rate.

TRAINING AS A TEACHER

Currently there is increased emphasis on competence as a teacher as well as an investigator for faculty members of colleges, universities, and professional schools. In addition to practical experience and laboratory teaching and lecturing, students should give consideration to courses offered by the School of Education concerning *learning theory*, instructional strategy, and educational technology in adult education.

A complete listing of courses in education available in the university can be obtained from the School of Education, Office of Graduate Studies, 1001 West Main Street, Richmond, Virginia 23284. Telephone (804) 770-6525.

COMBINED M.S./PH.D. AND M.D. OR D.D.S. DEGREE PROGRAMS

Many future physicians and dentists, especially those interested in academic and

research careers, need to start in depth training in research while still in school or residency training. This need can be effectively met by completing the requirements for the M.S. or Ph.D. degree concurrently with the study of medicine or dentistry. The MCV/VCU medical and dental curricula, with free time for elective courses and research, provide an excellent opportunity for interested students to enter a combined M.S./Ph.D. M.D. or D.D.S. program.

Admission of medical and dental students regularly enrolled in these schools to this combined degree program is processed through the office of the dean of the School of Basic Sciences by established procedures. The Medical College Admission Test or Dental Aptitude Test is accepted in lieu of the Graduate Record Examination. Undergraduate transcripts and references are obtained from the professional school. No application fee is required since the student is already regularly enrolled in a school of the university.

The requirements for a combined professional school-graduate school degree in basic sciences are equivalent to those required of students seeking a graduate degree alone and are determined by the individual department. One of the graduate committee members is the student's professional school advisor.

The minimum residence requirement is one year for the M.S. and two years for the Ph.D. degree. Twenty-four weeks of graduate work (two summers) will be considered equivalent to one year of residence. A time limit of five calendar years for the M.S. and seven calendar years for the Ph.D. degree, beginning at the time of first registration in the graduate school, applies to work to be credited toward degrees for students in combined programs.

Medical and dental scientists often need basic training in several of the basic disciplines to meet their objectives. This can be arranged through the appointment to the graduate committee of members from both basic sciences and clinical departments. Admission to graduate study and development of an interdisciplinary program will be channeled through the basic science department in which the student indicates a

major interest and will conform to all policies and procedures established by the MCV Graduate Committee. Courses may be taken in a broad area; research will normally be concentrated in one laboratory or department with consultation and advice from related areas and departments through the student's graduate committee.

DEPARTMENTAL RESEARCH INTERESTS

The graduate course offerings and the list of graduate faculty for each department offering graduate work under the administration of the dean of the School of Basic Sciences are given in the appropriate school sections of this *Bulletin*. The pages on which these may be found and brief statements of the research interests of the faculties of the department follow:

School of Basic Sciences

1. Department of Anatomy page 89.

Research Interests: Ultrastructural studies of ovary, oviduct, cervix, and uterus; maternal accommodations to implantations; experimental embryology; teratological aspects of drug metabolism; control of corpus luteal life span; uterine glycogenesis; comparative neuroanatomy; neurotransmitters; neurophysiology of eye movement; eye differentiation; synaptology; maturation in central nervous system; renal transplantation rejection; ontogeny of the immune system; immunochematolgy; immune dysfunction and malignancy; carcinogenesis; oxyhernoglobin affinities; and cytosomes in alveolar cells.

2. Department of Biochemistry page 89.

Research Interests: Enzyme chemistry; mitochondrial function; cellular control mechanisms; isozymes; cancer; thiamine metabolism; biogenesis of mitochondria; genetic control of development and differentiation; nuclear proteins; somatomedin; neuro-chemistry; intracellular protein catabolism; protein and nucleic acid metabolism; steroid and phospholipid metabolism; fluorescence and submicroanalysis; and physical biochemistry.

3. Department of Biophysics page 90.

Research Interests: Structures and function of proteins and nucleic acids; biophysical characterization of macromolecules; effects of ionizing and non-ionizing radiation on the eye and other organs; photobiology; biophysical characterization of artificial and biological membranes; structural and functional analysis of subcellular organelles of normal and pathological tissues.

4. Department of Biostatistics page 91.

Research Interests: Epidemiological and operational research in health care, determinants of demand in primary care, analysis of observational studies, analysis of survival data with concomitant information, response surface design and analysis, linear statistical models, non-parametric function estimation and related areas, pattern recognition, design and analysis of clinical trials, multivariate analysis, analysis of survival data-survival curves, non-parametric statistics, determinants of physician utilization, and epidemiological studies.

5. Department of Human Genetics page 92.

Research Interests: Clinical cytogenetics, cell hybridization, somatic cell genetics, human population genetics, genetic linkage studies, genetic polymorphisms, delineation of genetic syndromes, hereditary deafness, human biochemical genetics, twin studies.

6. Department of Microbiology page 92.

Research Interests: Antibiotics and chemotherapy; biophysical characterization of biological macromolecules; animal virology; cellular and tumor immunology; host-parasite relations in bacterial and viral diseases; microbial biochemistry, ecology, genetics, and physiology; molecular biology; membrane transport; cellular oncology; cancer chemotherapy; immunopotentialization; genetic mechanisms and regulation of prokaryotic and eukaryotic cells; mycology, immunobiology; and medical bacteriology.

7. Department of Pharmacology page 93.

Research Interests: Drug metabolism; pharmacodynamics; psychopharmacology; cardiovascular pharmacology; clinical pharmacology; toxicology; drug evaluation; and biochemical and central nervous system pharmacology.

8. Department of Physiology page 94.

Research Interests: Motor and sensory systems; behavior; endocrine regulation of reproduction and thyroid systems; gastrointestinal secretory systems; oxygen transport and delivery systems; topics in general physiology, including mechanisms of solute transport in epithelial and synthetic membrane systems; and excitation-contraction coupling in cardiac, skeletal, and smooth muscle.

School of Medicine

Department of Pathology

Research Interests: Biochemical and clinical applications of enzyme and protein immobilization, clinical enzymology, techniques in clinical chemistry, red cell antigens, computer diagnosis, oral carcinogenesis, mycoplasma-bacterial interactions, bacterial L-forms, immunohematology, immunotherapy of cancer, cerebral microcirculation, blood substitutes, leukemia, sickle cell disease, amebic meningoencephalitis, trace metal metabolism in tumors, drug distribution, diagnostic immunoassays, inflammation, fever, neurochemistry and ultrastructure of brain, infectious diseases, paleopathology, and diagnostic virology.

School of Pharmacy

1. Department of Pharmaceutical Chemistry

page 174.

Research Interests: Synthesis and biological evaluation of new compounds, determination of relationships between chemical structure and biological activity, studies on modes of drug action, rational design of new drugs, bacterial growth kinetics in the presence of antibiotics. Drug classes under investigation include analgesics, anticoagulants, anti-malarials, anti-metabolites, antineoplastics, anti-sickling agents, hypocholesteremics, hypoglycemics, hypotensives, neurotransmitters, peptide antibiotics, psychotropic agents, reversible and irreversible enzyme inhibitors, urolithiasis inhibitors.

2. Department of Pharmacy and Pharmaceutics

page 175.

Research Interests: Bioavailability studies, factors governing release of drugs from solid dosage forms, micellar nature of drug solutions, drug-protein binding interactions, effects of saturated and competitive metabolism on pharmacokinetics, clinical pharmacokinetics including computer modeling of pharmacokinetics in man and use of individual pharmacokinetic parameters in optimizing dosage regimens, development of analytical methodology for drugs in biological fluids, isolation of new drugs from natural sources.

GRADUATE COURSE IN INTERDEPARTMENTAL BASIC SCIENCES (BAS)

550-551 Basic Science Core Curriculum for Postgraduate Dental Students. 3 lecture hours. 3 credits. I, II. This course is designed to provide the postgraduate dental student with the educational experience in the basic science required for the successful completion of his/her specialty training program. Selected lectures in the basic science areas related to dentistry are presented and are supplemented by assigned articles.

Department of Anatomy (ANA)

501 Microscopic Anatomy (Dentistry). 3 lecture and 6 laboratory hours. 6 credits. I. A study of the normal tissues and organs of the human body at the microscope level, with emphasis on the histological organization and development of the oral cavity.

502 Gross Anatomy (Dentistry). 3 lecture and 9 laboratory hours. 7.5 credits. II. A systematic dissection and study of the human body with clinical correlation and emphasis on the head and neck.

507 History of Anatomy. 1 lecture hour. 1 credit. (Alt. yrs. '77-'78). Assigned readings and lectures on the historical development of anatomical knowledge. Pre-scientific era to the present time will be covered in the course.

509 Gross Anatomy. 3 lecture and 12 laboratory hours. 9 credits. I. (Alt. yrs. '78-'79). A graduate level, in depth study of human anatomy at the gross level. Though intended primarily for graduate students in

anatomy, this course will prove useful for all graduate students desiring a thorough knowledge of human gross anatomy.

510 Neuroanatomy. 4 lecture hours. 4 credits. II. An in depth study of the structure, connections, and function of the central nervous system. ANA 510 and 512 constitute a complete graduate level neuroanatomy course.

511 Microscopic Anatomy. 3 lecture and 6 laboratory hours. 6 credits. II. (Alt. yrs. '77-'78). A graduate level, in depth study of human anatomy at microscopic and fine structural levels.

512 Neuroanatomy Laboratory. 2 laboratory hours. 1 credit. II. (Alt. yrs. '78-'79). Prerequisite: ANA 510. (concurrently or equivalent.) A complement of ANA 510 which trains the student to study the central nervous system through the use of literature and actual gross and histological preparations.

513 Advanced Studies in Anatomy. 3 lecture and 6 laboratory hours. 6 credits. I. An in depth course in specific areas of anatomy: histology, gross anatomy, and neuroanatomy.

514 Techniques in Electron Microscopy. 2 lecture and 6 laboratory hours. 5 credits. II. Prerequisite: ANA 501. Students are taught the basic techniques and theories of ultra-microtomy and electron micrography, as well as the use of the electron microscope.

590 Anatomy Seminar. 1 lecture hour. 1 credit. I, II. This course is a joint effort by the faculty and graduate students of the Department of Anatomy. Reviews and reports of original research and significant advances in the basic medical sciences are submitted.

600 Fine Structure of Cells and Tissues. 5 lecture hours. 5 credits. II. (Alt. yrs. '77-'78). Prerequisite: histology. A seminar-conference course in interpretive electron microscopy. The ultra-structural features of cellular elements and tissues are discussed in the light of the most recent research in the field of cell biology.

602 Embryology. 3 lecture and 9 laboratory hours. 6 credits. II. (Alt. yrs. '78-'79). Prerequisite: ANA 509 or equivalent. The lecture portion of the course will cover a variety of individual topics of contemporary interest given by authorities in the particular fields. They will emphasize the historic and classic aspects of the topic as related to current research in the concerned fields. An in depth study of the morphogenesis of each major organ system using prepared slides of hamster embryos and human materials will constitute the laboratory portion of the course.

690 Research in Anatomy. 1-15 credits. I, II, S.

Department of Biochemistry (BIC)

501 Biochemistry (Dentistry). 4 lecture and 2 laboratory hours. 5 credits. I. Prerequisite: organic chemistry.

A presentation of structural biochemistry, intermediary metabolism, physiological chemistry, and nutrition as part of the fundamental background of modern dentistry.

503-504 General Biochemistry. 3 lecture hours. 3 credits. I, II. Prerequisite: eight credits of organic chemistry. Both semesters are required for the comprehensive introductory course for graduate students. BIC 503 is prerequisite for BIC 504.

505 Experimental Biochemistry. 8 laboratory hours. 4 credits. I. Prerequisite: BIC 503 (or concurrent) or equivalent, quantitative chemistry. Laboratory work, including theory and practice of biochemical research methods.

510 Biochemical Preparations. 2 credits per preparation. I, II. S. A study of some of the more common biochemical substances by comprehensive written review of the literature and by preparations from biological material.

590 Biochemistry Seminar. 1 credit. I, II. Reports on recent biochemical literature and research by students and staff.

601 Lipids. 2 lecture hours. 2 credits. I. (Alt. yrs. '77-'78). Prerequisite: BIC 503-504. Selected advanced topics in the chemistry and metabolism of lipids.

602 Proteins. 2 lecture hours. 2 credits. II. (Alt. yrs. '78-'79). Prerequisite: BIC 503-504. Biochemistry of proteins.

603 Nutritional Biochemistry. 2 lecture hours. 2 credits. I. (Alt. yrs. '78-'79). Prerequisite: permission of instructor. Advanced study of chemistry and biochemical mechanisms of vitamin function; experimental and practical aspects of nutrition.

604 Enzymology. 3 lecture hours. 3 credits. II. (Alt. yrs. '78-'79). Prerequisite: BIC 503-504. Mechanisms and kinetics of enzyme catalysis.

606 Controls of Metabolic Processes. 2 lecture hours. 2 credits. II. (Alt. yrs. '77-'78). Prerequisite: BIC 503-504 and permission of the instructor. An advanced course on mechanisms by which metabolic processes are controlled.

690 Research in Biochemistry. 1-15 credits. I, II. S. Research leading to the M.S. or Ph.D. degree and elective research projects for students in the professional schools.

Department of Biophysics (BIP)

500 Introduction to Biophysics. 4 lecture hours. 4 credits. I. Required course for first-year graduate students in biophysics. Principles of atomic and nuclear physics, spectroscopy, ions in solution, molecular structure, thermo-dynamics, and principles of interaction of physical with biological systems are stressed.

501 Radioisotopes. 3 lecture and 2 laboratory hours. 4 credits. I. Elements of nuclear physics, statistics of counting, radiation dosimetry, health physics, radiation protection, tracer, and radiographic techniques.

502 Applied Electronics in Biology and Medicine. 2 lecture and 2 laboratory hours. 3 credits. II. (Alt. yrs. '77-'78). Fundamental principles and applications of electronics as related to biological sciences.

504 Computer Technology in the Biomedical Sciences. 2 lecture and 2 laboratory hours. II. Research and clinical applications of automatic and semi-automatic data acquisition systems: data collection, transmission and processing of data, display and storage of data, and automatic control of instruments.

510 Advanced Biophysics. 4 lecture hours. 4 credits. I, II. (Alt. yrs. '77-'78). Prerequisite: thermodynamics and physical chemistry, calculus, and elementary physics. Introduction to statistical mechanics and quantum mechanics.

522 Circuit Design and Analysis. 3 lecture hours. 3 credits. II. (Alt. yrs. '78-'79). Prerequisite: college physics, calculus. Emphasis is placed on the understanding in depth of the analysis and design of electronic circuits. Designed to meet the needs of quantitatively oriented students.

524 Biophysical Optics. 2 lecture hours. 2 credits. I, II. (Alt yrs. '78-'79). Prerequisite: calculus and elementary physics. First semester deals with theories of optical physics. Second semester will cover principles of photochemistry and photobiology.

590 Seminar. 1 lecture hours. 1 credit. I, II. Research reports from members of the staff, discussion of special topics, and lectures by visiting speakers. Participation and at least one presentation each semester by each registered graduate student.

601 Biophysical Principles. 4 lecture hours. 4 credits. I, II. (Alt. yrs. '78-'79). Prerequisite: BIP 500. First semester includes the basic mathematical theory of X-ray crystal structure analysis including techniques and methods of solving structure of crystals. Detailed discussion of the crystalline structure of several biological molecules. Second semester will include in depth discussions of the theories covering the techniques used in studying biological macromolecules in solution.

602 Molecular Biology. 4 lecture hours. 4 credits. II. Prerequisite: undergraduate biology and/or chemistry. Chemistry of nucleic acids; protein synthesis; molecular genetics and control, membrane biophysics; molecular basis of disease.

604 Biophysical Techniques. 2 lecture and 2 laboratory hours. 3 credits. II. The following principles and procedures of methodology will be presented in depth: chromatography, ultracentrifugation, electrophoresis, and spectroscopy. The application of these techniques

to biological problems such as tissue fractionation and quantitative analysis of biological membranes, including the use of electron-spin resonance and nuclear magnetic resonance, will be discussed.

690 Research in Biophysics. 1-15 credits. I, II. S. Opportunities are available for graduate students to conduct original investigations under the supervision of members of the staff in molecular biology of myocardial infarction, muscular dystrophy and lysosomes of phagocytic cells, radiobiology, biological effects of thermal and laser radiation, and other areas of quantitative research on living systems at the molecular level.

Department of Biostatistics (BIS)

511-512 Methods of Statistical Analysis. 3 lecture hours. 3 credits. (This is a two-semester sequence. However, BIS 511 may be taken without taking BIS 512). Basic concepts of statistical methods, statistical measures, variation, distributions, tests of significance, simple nonparametric tests, analysis of variance, concepts of experimental design, regression, correlation; analysis and design of factorial experiments, Latin squares and others; effects of blocking fractional replication, and confounding.

521 Statistical Principles of Health Care Information. 3 lecture hours. 3 credits. I. (For students in hospital and health administration; graduate students in nursing; others with consent.) A basic introduction to the nature, use, and analysis of hospital and health-care statistics. The collection, presentation, tabulation, and interpretation of statistical data. Classification of measurements and observations, properties of rates, ratios, and indices. Some typical statistical distributions. The use of measure of location and dispersion to describe a distribution. 'Normal' variation and outliers. The elementary laws of probability. The concept of a sampling distribution, the standard error of the mean and confidence limits in large and small samples, and tests of significance.

524 Statistical Computing. 3 lecture hours. 3 credits. II. Prerequisites: BIS 511 or BIS 521 or equivalent. The Statistical Analysis System (SAS) is both a powerful computer language and a large collection of statistical procedures. It is an excellent way for a student to learn how to use the VCU computer system via the department's terminal and is recommended for those who will need computer analysis in their research but who have no background in computing. Students will learn how to create and manage computer data files. Efficient design of data sets will be stressed and manipulation methods (i.e.; sorting, merging, transferring, and condensing) will be taught. Techniques for thorough examination and validation of research data will be presented as the initial step of a complete, computerized analysis. The creation of graphs, tables, and lists will be covered using this phase. Descriptive statistics will be computed and statistical procedures such as t-tests, contingency tables, correlation, regression, and analysis of variance then applied to the data. Special attention will be paid to the applicability of each procedure. Effective methods of summarizing and presenting data will be discussed. Students will be

encouraged to analyze their own or typical data from their discipline. To this end and to facilitate individual needs, each student will be assigned a teaching assistant who will be available at stated times.

537 Sampling. 3 lecture hours. 3 credits. I. (Alt. yrs. '78-'79). An introduction to the theory and methods of sampling and sample surveys including random, stratified, systematic, and probability sampling, estimation of sample sizes, ratio and regression estimates, and analytical surveys.

538 Epidemiology and Population Research. 3 lecture hours. 3 credits. I. (Alt. yrs. '77-'78). Sources of vital statistical data—review of the binomial, poisson, negative binomial distributions as they apply to vital events; summary statistics, rates, ratios, and others; direct and indirect standardization; abridged life tables; principles of epidemiology; interpretation of analytical surveys; problems in the analysis of observational studies in health care and public health; causality; inferences; path analysis; modeling; and crucial observations.

546 Linear Statistical Models. 3 lecture hours. 3 credits. II. Prerequisite: STA 513. Distribution of quadratic forms under normal theory; general linear model of full rank and less than full rank, Gauss-Markov theorem; estimability.

547 Nonparametric Statistics. 3 lecture hours. 3 credits. I. (Alt. yrs. '77-'78). Theory of distribution-free and order statistics with emphasis on estimation and hypothesis testing.

590 Biostatistics Seminar. 1 lecture hour. 1 credit. I, II. Talks by the students, faculty, and visitors describing recent research or reviewing topics of mutual interest.

600 Special Topics in Biostatistics. 1-4 credits. I, II. The faculty (including visiting and adjunct professors) from time to time offer courses in newly developing areas of statistics and biometry. For information, contact the department chairman.

641 Advanced Statistical Inference. 3 lecture hours. 3 credits. (Alt. yrs. '78-'79). Prerequisite: STA 514. Concepts of classical decision theory, the Bayesian approach to decision theory, the use of prior information in arriving at decision procedures, empirical Bayesian tests of hypotheses, estimation of parameters, and other applications. In the second half of this course, the theories of estimation and hypothesis testing introduced in STA 514 will be extended.

642 Methods of Multivariate Analysis. 3 lecture hours. 3 credits. II. Prerequisite: BIS 511, 546. (Alt. yrs. '77-'78). Introduction to the theory and methods of analysis of multivariate data; generalization of standard univariate techniques to the multivariate, unionintersection and likelihood ratio tests; multiple, partial, and canonical correlation; principle component analysis; discriminant analysis.

650 Design and Analysis of Response Surface Experiments. 3 lecture hours. 3 credits. II (Alt. yrs. '78-'79). Prerequisite: BIS 511 and 546. Philosophy, terminology, and nomenclature for response surface methodology, analysis in the vicinity of the stationary point, canonical analyses, description of the response surfaces, rotatability, uniform information designs, central composite in design, and modern design criteria.

690 Research in Biostatistics. 1-15 credits. I, II, S.

For additional related courses, see offerings in mathematical sciences and statistics, pages 70 and 72.

Department of Human Genetics (GEN)

501 Introduction to Human Genetics. 3 lecture hours. 3 credits. I. An introductory course in the principles of inheritance with particular reference to genetic variance in man.

504 Biochemical Genetics. 3 lecture hours. 3 credits. II. PR: biochemistry. The chemical nature of genetic material and its role in cell division and in protein synthesis in both procaryotic and eucaryotic systems.

511 Human Cytogenetics. 3 lecture hours. 3 credits. I. Principles of cytogenetics and the significance of chromosome diseases in man.

516 Population Genetics. 3 lecture hours. 3 credits. II. Genetic and ecological factors affecting normal and abnormal variation within and between populations of organisms, especially man.

519 Quantitative Genetics. 3 lecture hours. 3 credits. I. Methods of analysis of quantitative traits in families and populations.

590 Genetics Seminar. 1 lecture hour. 1 credit. I, II. Selected topics in genetics presented by students and staff.

600 Clinical Genetics. 1 lecture and 2 laboratory hours. 2 credits. I, II. Prerequisite: GEN 501 or equivalent. Practical experience in the genetic counseling clinic and on ward rounds. Includes collection and analysis of family histories, genetic counseling, and introduction to genetic nosology.

650 Special Topics in Genetics. 1-4 credits. I, II. Lectures, tutorial studies, library assignments in selected areas of advanced study, or specialized laboratory procedures, not available in other courses or as part of the research training.

690 Genetics Research. 1-15 credits. I, II. Research leading to the M.S. or Ph.D. degree; elective research projects for students in the professional schools.

Department of Microbiology (MIC)

502 Animal Virology. 2 lecture and 4 laboratory hours.

4 credits. II. A comprehensive introduction to animal virology emphasizing the molecular aspects of viral replication, the cellular responses following viral infection, and host-virus interrelationships.

504 Fundamentals of Microbiology. 3 lecture hours. 3 credits. I. A comprehensive survey of the fundamentals of microbiology including studies of cell composition and structure, growth and cell division, metabolism and its control, microbial genetics, taxonomy, and comparative review of the major groups of microbes including viruses, bacteria, fungi, algae, and protozoa.

506 Immunobiology. 2 lecture and 4 laboratory hours. 4 credits. II. A survey of immunobiology as a total host response to foreign agents, covering the nature of antigens and antibodies, antigen-antibody reactions, immunocompetent cells, allergic reactions, tumor immunology, transplantation immunology, and immunogenetics. The laboratory is designed to provide students with practical experience, using basic immunologic techniques which may be applicable in research projects and diagnostic laboratories.

507 Medical Mycology. 2 lecture and 4 laboratory hours. 4 credits. I. (Alt. yrs. '78-'79). A comprehensive study of fungi pathogenic to man with an emphasis on their properties, pathogenesis, and laboratory diagnosis.

508 Cell Physiology and Metabolism Laboratory. 3 lecture and 18 laboratory hours. 4 credits. S. (Six weeks). Prerequisite: MIC 504 or BIC 503. Laboratory practice in the design, conduct, and evaluation of techniques and methods in common use in cell physiology and metabolism.

510 Medical Parasitology. 2 lecture and 4 laboratory hours. 4 credits. II. (Alt. yrs. '78-'79). An introduction to the animal parasites of man with emphasis on both the biological and the medical aspects of the host-parasite association.

515 Pathogenic Bacteriology. 2 lecture and 4 laboratory hours. 4 credits. I. A survey of the bacteria that cause infections in man with an emphasis on their properties, pathogenesis, and laboratory diagnosis.

523 Infections and Immunity (Dentistry). 1 lecture hour. I. 2 lecture hours and 4 laboratory hours. 5 credits. II. A lecture and laboratory study of the disease producing microorganisms of man with special emphasis on the roles of microorganisms in oral diseases.

590 Microbiology Seminar. 1 lecture hour. 1 credit. I, II. Presentation and discussion of research reports and topics of current interest to the departmental seminar or special group seminar.

604 Cell Physiology and Metabolism. 3 or 5 lecture hours. 3 or 5 credits. II. Prerequisite: MIC 504. An advanced course on the physiology and metabolism of procaryotic and eucaryotic cells with some emphasis on the regulation of cell functions. Lectures and class

discussions will focus on current scientific literature including review articles and original research papers.

650 Special Topics in Microbiology. 1-4 credits. I or II. Lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as part of the research training.

685 Advanced Immunobiology. 1-3 lecture hours. 1-3 credits. Lectures, seminars, and conferences on basic and clinical immunobiology. Emphasis on correlation between clinical syndromes and immunologic pathophysiology, current immunological research, interpreting basic and clinical immunological data, and formulating hypotheses and solving problems of immunological interest. Open primarily to resident house-staff or students with immunology background such as MIC 506.

690 Research in Microbiology. 1-15 credits. I, II. Research leading to the M.S. or Ph.D. degree and elective research projects for other students.

Department of Pharmacology (PMC)

402 Principles of Pharmacology (Pharmacy). 3 lecture and 2 laboratory hours. 4 credits. II. The basic principles of pharmacology that apply to drugs in general and a consideration in depth of the absorption, distribution, biotransformation, excretion, and mechanisms of action of these agents. Toxicology, drugs acting on the autonomic nervous system, and drug evaluation also are discussed.

501 Pharmacological Agents (Pharmacy). 3 lecture hours. 3 credits. I. Major classes of therapeutic agents, including specific drugs, discussed in detail. Includes chemotherapeutic, cardiovascular, central nervous system, and endocrine agents. (This is a continuation of PMC 402.)

517 Biology of Cancer. 3 lecture hours. 3 credits. I. A presentation of the basic aspects of neoplasia with specific blocks devoted to pathology, biochemistry, carcinogenesis, anticancer drugs, and immunology. This is an interdisciplinary course offered primarily by the Departments of Pharmacology, Microbiology, Biochemistry, and Pathology.

520 Introduction to Pharmacological Research. 12 laboratory hours. 4 credits. I, II. S. Prerequisite: permission of instructor. Exposure to pharmacological research from many different aspects.

535 Principles of Toxicology. 2 lecture and 2 laboratory hours. 3 credits. II. The basic principles of the various aspects of toxicology are presented. Correlations of functional, morphological, carcinogenic, teratogenic, and mutagenic responses with biochemical and toxicological lesions are attempted. Toxicological test procedures will be performed. Environmental and industrial toxicology, food and agricultural chemicals, pertinent legislation, and principles of forensic toxicology will also be covered.

536 General Pharmacology. 5 lecture hours. 5 credits. I. A comprehensive introductory course in pharmacology for graduate students. Major classes of therapeutic agents and basic principles of pharmacology are discussed.

542 Introduction to Forensic Toxicology. 2 lecture and 4 laboratory hours. 4 credits. II. (Alt. yrs. '77-'78). Lecture and laboratory exercises in which common poisons and groups of poisons are discussed as to detection, diagnosis, and treatment of poisoning. Laboratory work includes basic principles of analytical toxicology.

548 Drug Dependence. 3 lecture hours. 3 credits. II. Prerequisite: junior or senior standing or with permission of instructor. A broad survey course in problems of drug use and abuse intended primarily for students in the biomedical sciences, social sciences, or education. It will focus on the pharmacology of psychoactive drugs as well as a study of the psychological and sociological factors in drug taking behavior, rehabilitation methods, and drug abuse prevention. This course may not be taken in lieu of any pharmacology offerings in the professional schools on the MCV Campus.

590 Pharmacology Seminar. 1 lecture hour. 1 credit. I, II. Members of the departmental staff, students, and visiting lecturers participate in discussions on topics of current and historical interest.

625 Biochemical Pharmacology. 3 lecture hours. 3 credits. I. (Alt. yrs. '77-'78). Prerequisite: BIC 503. Selected topics dealing with the activation and inactivation of drugs and the effects of drugs on enzyme systems. Lectures and assigned reading.

632 Neurochemical Pharmacology. 3 lecture hours. 3 credits. I. (Alt. yrs. '78-'79). The biochemical and theoretical aspects of the effects of drugs on the central nervous system will be discussed.

633 Behavioral Pharmacology. 3 lecture hours. 3 credits. II. (Alt. yrs. '77-'78). Emphasis will be placed on techniques used in behavioral pharmacology and on the effects of drugs on behavior.

634 Special Topics. 1-4 credits. I, II. Prerequisite: permission of instructor. Special topics in pharmacology or toxicology covered in less detail in other courses will be studied in depth in this course. Hours to be arranged.

637 Cardiovascular-Autonomic Pharmacology. 3 lecture hours. 3 credits. II. (Alt. yrs. '77-'78). Specialized advanced course in the pharmacology of drugs which affect these systems.

638 Advanced Toxicology. 3 lecture hours. 3 credits. I. (Alt. yrs. '77-'78). Prerequisite: PMC 535 and BIC 503-504. Biochemical responses to many environmental chemicals which are active at the transcriptional or replicative level are presented. Detailed biochemistry

and selective toxicity of anti-cancer drugs are discussed on the macromolecular level. The involvement of microsomal enzyme pathways in long-term toxic responses is related to the mode of action of chemical mutagens and carcinogens.

639 Drug Development. 1 lecture and 4 laboratory hours. I. (Alt. yrs. '78-'79). Prerequisite: PMC 402 and 501 or their equivalents. The principles of drug screening, advanced testing, and procedures necessary prior to the clinical evaluation of new products are described. An emphasis is placed on physiological type procedures used in pharmacology.

699 Research in Pharmacology. 1-15 credits. I, II, S. Intended for advanced graduate students in the Department of Pharmacology.

Department of Physiology (PIO)

502 Mammalian Physiology. 4 lecture and 3 laboratory hours. 5 credits. II. A comprehensive study of the function of mammalian organ systems.

504 Cell Physiology I. 5 lecture hours. 5 credits. I. A description of the functional properties of cells in terms of physics and chemistry. Topics discussed include cell structure and cytochemistry, bioenergetics, secretion, and transport of material across membranes, excitation, and contractility.

530 Special Topics in Physiology. 1-4 credits. I, II. Prerequisite: permission of instructor. This course is

designed to provide study of specific topics in physiology. The topics offered include neurophysiology, cardiopulmonary physiology, renal-gastrointestinal physiology, and endocrinology.

590 Physiology Seminar. 2 lecture hours. 2 credits. I, II. Reports on current physiological research and problems presented by graduate students, staff, and visiting lecturers.

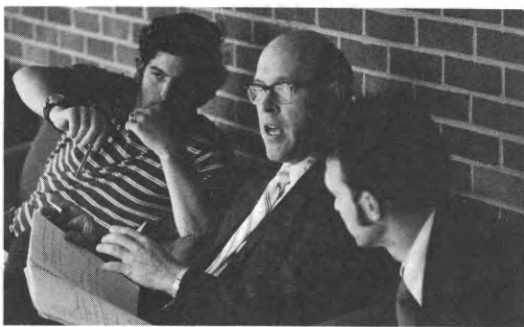
604 Membrane Transport. 2 lecture hours. 2 credits. I. Advanced description of membrane transport processes.

606 Mathematical Physiology. 3 lecture hours. 3 credits. I, II. Introduction to mathematical techniques used in research. Included will be matrices linear operators, vectors and tensors, partial differentiation, numerical methods, Fourier Series, and La Place transformations.

690 Research in Physiology. 1-15 credits. I, II, S. Research in physiology.

CERTIFICATE PROGRAM

In addition to the preceding courses of study, the School of Basic Sciences also offers a certificate program in head and neck anatomy. For further information contact the dean of the school.



School of Business

DEGREE PROGRAMS

The School of Business offers degree programs leading to the Master of Business Administration, Master of Science in business, and Master of Arts in economics.

CERTIFICATE PROGRAMS

The School of Business offers the post-baccalaureate certificate in accounting and the post-baccalaureate certificate in information systems.

ADMISSION TO DEGREE PROGRAMS

Both full- and part-time students who have earned a bachelor's degree or its equivalent can be admitted to the graduate programs. Selection is made on the basis of undergraduate performance, intellectual capacity, character, experience, and other indicators of the ability to pursue graduate study profitably.

Satisfactory subject-matter scores on the College Level Examination Program (CLEP) can be substituted for requisite foundation courses at the undergraduate level. The CLEP Bulletin of Information and a registration form can be obtained from the College-Level Examination Program, Box 1824, Princeton, New Jersey 08540.

Foreign students must also submit scores

on the Test of English as a Foreign Language (TOEFL); a minimum score of 550 is required. The TOEFL Bulletin of Information and a registration form can be obtained in a number of cities outside the United States. They often are available at one of the following: American embassies and consulates, offices of the United States Information Service (USIS), United States educational commissions and foundations abroad, and binational centers.

Students who cannot obtain a TOEFL bulletin and registration form locally should write well in advance for them to: Test of English as a Foreign Language, Box 899, Princeton, New Jersey 08540, U.S.A. Students residing in Taiwan must apply to: Language Center, 2-1 Hsueh Road, Taipei, Taiwan, for the special Taiwan editions of TOEFL publications.

Foreign students must be officially accepted at least six weeks prior to the semester for which they are seeking admission.

Applicants to the Master of Business Administration and Master of Science degree programs must submit scores on the Graduate Management Admission Test (GMAT). The School of Business at VCU is a testing center for this examination which is given in November, January, March, and

July. This test should be taken as far as possible in advance of the time of desired entry. The GMAT Bulletin of Information and a registration form can be obtained from the Educational Testing Service, Princeton, New Jersey 08540, U.S.A.

The GMAT will be administered on the following dates during the 1977-78 school year: July 9, 1977; November 5, 1977; January 28, 1978; March 18, 1978; and July 8, 1978. Applicants to the Master of Arts degree program in economics must submit scores on the Graduate Record Examination (GRE). The School of Education at VCU is a testing center for this examination which is given in October, December, January, February, April, and June. This test should be taken as far as possible in advance of the time of desired entry. The GRE Bulletin of Information and a registration form can be obtained from the Educational Testing Service, Princeton, New Jersey 08540, U.S.A.

The Graduate Record Examination will be administered on the following dates during the 1977-78 school year: October 16, 1977; December 11, 1977; January 8, 1978; February 26, 1978; April 23, 1978; and June 11, 1978.

LATE APPLICATIONS

Applicants whose applications reach the university after August 1 for the fall semester and December 15 for the spring semester normally should not expect their folders to be processed in time for registration. A late applicant may enter as a special student, but there is no guarantee that the special student will be accepted into the degree program. *Credits earned prior to acceptance into a degree program cannot be applied toward degree requirements.*

All data required for the admission decision (including those listed above) must be in the applicant's folder prior to the last three weeks of class instruction. (This date is also the last day a student is permitted to withdraw from a course without a grade of "F").

SPECIAL STUDENTS

Holders of a baccalaureate degree who desire additional education for self-

enrichment are allowed to enroll as special students in graduate courses without applying for admission into the graduate program.

TRANSFER CREDIT

A maximum of six semester hours of acceptable graduate credit earned in a degree program at an accredited institution may be transferred and applied toward the graduate degree. Such credits will be evaluated for acceptance purposes at the completion of nine semester hours of work at this institution.

A "Graduate Transient" classification is granted to a student in good standing in any recognized graduate school who desires to enroll in the School of Business for any one semester or summer session. He will be required to present a certificate of his graduate standing but will not have to submit the data normally required for an admission decision. A special form is available to facilitate enrollment.

ADVISING PROGRAM

Students admitted to the Master of Business Administration and Master of Science programs are assigned a major advisor; students admitted to the Master of Arts program are assigned a major advisor and a sponsoring committee. The student is expected to work with his major advisor/sponsoring committee to plan the graduate program. Once the student's program has been developed, any change must be approved by his advisor and the director of graduate studies. Degree recipients must have received an overall grade-point average of 3.0 ("B") in those courses required for their degree program. No more than 20 percent of the student's grades may be "C" or lower in the courses required for their degree program. The student is responsible for knowing and fulfilling all general and specific requirements relating to the completion of his degree program.

The major advisor/sponsoring committee, in addition to giving academic counseling, is available for advice on vocational and personal matters. Students are encouraged to seek counseling whenever there is a need.

Students admitted to the post-

baccalaureate certificate programs in accounting and information systems will also be assigned advisors.

INDIVIDUAL RESEARCH PROJECTS

Various opportunities exist for students to work closely with faculty on individual research projects. BUS 650, 701-702, 703, 705, and ECO 701-702 are suitable for this purpose.

FINANCIAL AID

The School of Business offers a limited number of graduate assistantships to full-time students in the amount of \$2,700 for the academic year. For further information, write to the dean of the School of Business.

Graduate students are also eligible for funds administered under the National Defense Loan and College Work-Study Programs.

Full-time graduate students may borrow up to \$2,500 under the National Defense Loan Program. Repayment does not begin until one year after the completion of the program. Part-time graduate students are eligible for NDEA Loans commensurate with their hourly programs. Full-time students are eligible for work-study positions. Grants range from \$750 to \$1,000 and are paid in biweekly salaries for work completed. For further information, write to: Director of Financial Aid, Virginia Commonwealth University, 915 West Franklin Street, Richmond, Virginia 23284.

MASTER OF BUSINESS ADMINISTRATION PROGRAM

The Master of Business Administration program is designed for students with diverse undergraduate backgrounds. It is a program suitable for both nonbusiness and business graduates. Normally, it is a two-year program for graduates of the curricula in the arts and humanities, in engineering, and in the sciences. With an undergraduate degree in business, a person can complete the program in one year of full-time study.

The aim of the M.B.A. program is to prepare persons for the administration of an enterprise and for the responsibilities of management in a wide variety of business

endeavors. The program is intended to develop a knowledge of the functions and techniques of management, as well as an understanding of environmental and economic forces that influence administration and decision making. The emphasis is on breadth of outlook rather than on specialization.

A student who has had no undergraduate work in business must earn 52 semester credits to fulfill requirements for the degree. Included are 22 credits of foundation courses designed to provide preparation comparable to the professional core in the undergraduate curriculum of the School of Business. Some, or all, of these foundation courses may be waived for students who present satisfactory, equivalent preparation. A minimum of 30 credits of advanced graduate courses will be required of all students. One of the two elective courses may carry a 500 number, but not both.

DEGREE REQUIREMENTS

| Foundation Courses ¹ | Credits |
|---|----------|
| BUS 607 Financial Accounting | 3 |
| BUS 620 Financial Concepts of Management . | 3 |
| BUS 624 Elements of Quantitative Management | 3 |
| BUS 630 Fundamentals of the Legal Environment of Business | 2 |
| BUS 640 Management Theory and Practice... | 3 |
| BUS 660 Business Information Systems | 2 |
| BUS 670 Concepts and Issues in Marketing .. | 3 |
| ECO 611 Concepts in Economics | 3 |
| | <hr/> 22 |
| Advanced Courses | |
| BUS 608 Managerial Accounting Concepts ... | 3 |
| BUS 621 Advanced Financial Management ... | 3 |
| BUS 641 Organization Theory | 3 |
| BUS 642 Business Policy | 3 |
| BUS 645 Operations Research | 3 |
| BUS 661 Information Systems Development .. | 3 |
| BUS 671 Advanced Marketing Strategy | 3 |
| ECO 610 Managerial Economics | 3 |
| Business or Economics Electives | 6 |
| | <hr/> 30 |
| | <hr/> 52 |

¹These foundation courses may not be included in the 30 semester credits of advanced work required for any of the master's degrees offered by the School of Business.

MASTER OF SCIENCE DEGREE IN BUSINESS

The Master of Science degree program is designed to be flexible enough to meet a variety of needs. It provides advanced professional education for those now engaged in, or preparing for, managerial positions. It also offers appropriate graduate education for those now teaching or contemplating future graduate work. The work that is required of all candidates gives a broad approach to improving understanding of the principles of business management and economics that are important in any of the business fields. The elective part of the program is in keeping with the philosophy that graduate students should develop the ability to work independently in pursuit of their own goals. The elective portion of this program also allows students to specialize in a particular area of business. Concentrations are available in the following areas:

- Accounting
- Business Education
- Economics
- Finance
- Industrial Relations
- Information Systems
- Insurance
- International Business
- Management
- Marketing
- Quantitative Techniques
- Real Estate and Urban Land Development
- Taxation

Applicants interested in additional information for any of these areas should contact the Office of Graduate Studies, School of Business, 1015 Floyd Avenue Virginia Commonwealth University, Richmond, Virginia 23284.

A student who has had no undergraduate work in business must earn a minimum of 52 semester credits to fulfill requirements for the degree. Included are 22 credits of foundation courses designed to provide preparation comparable to the professional core in the undergraduate curriculum of the School of Business.² Some, or all, of these

foundation courses may be waived for students who present satisfactory equivalent preparation. A minimum of 30 credits of advanced graduate courses will be required of all students.

DEGREE REQUIREMENTS

| Foundation Courses ³ | Credits |
|---|----------|
| BUS 607 Financial Accounting | 3 |
| BUS 620 Financial Concepts of Management . | 3 |
| BUS 624 Elements of Quantitative Management | 3 |
| BUS 630 Fundamentals of the Legal Environment of Business | 2 |
| BUS 640 Management Theory and Practice ... | 3 |
| BUS 660 Business Information Systems | 2 |
| BUS 670 Concepts and Issues in Marketing .. | 3 |
| ECO 611 Concepts in Economics | 3 |
| | <hr/> 22 |

The 30 semester credits of advanced work must be distributed over the following three areas:

1. CORE AREA (9 credits)

All students must complete a minimum of three semester credits in each of the following areas, with one exception noted under THESIS OPTION. The specific courses to be taken in these areas will be determined by each student's background and professional objectives: economics, quantitative techniques, and research.

2. RESTRICTED ELECTIVES (9 credits)

All students must complete three semester credits in each of three of the following fields: accounting, business education, economics, finance, industrial relations, information systems, insurance, international business, management, marketing, quantitative techniques, real estate and urban land development, and taxation.

3. ELECTIVES (12 credits)

With the permission of his advisor, a student may concentrate these 12 credits in one field, or the student may distribute them among the fields enumerated in Area 2.

²Some departments may have special prerequisite requirements. Please consult the appropriate department.

³These foundation courses may not be included in the 30 semester credits of advanced work required for any of the master's degrees offered by the School of Business.

THESIS OPTION: A student interested in writing a thesis may take six course credits in Area 3 plus BUS 701-702 Thesis. If a student elects to write a thesis and has already acquired an adequate knowledge of research techniques, the student may, with the permission of his advisor, omit the research requirement in Area 1 and replace it with an additional three-credit elective.

MASTER OF ARTS DEGREE IN ECONOMICS

The Master of Arts degree in economics is designed to provide training for business and government economists, for those now teaching in secondary schools or in junior colleges, and for those who plan further study at the doctoral level. The required courses provide a firm foundation in economic theory, while the electives permit students to concentrate in the field of their choice.

The Master of Arts degree requires 30 semester hours of work to be distributed over the following areas:

1. CORE AREA (15 credits)

The following "core" courses are required for all degree candidates:

| | <i>Credits</i> |
|--|----------------|
| ECO 604 Advanced Microeconomic Theory .. | 3 |
| ECO 607 Advanced Macroeconomic Theory .. | 3 |
| ECO 612 Econometrics | 3 |
| ECO 701-702 Thesis | 6 |

2. ELECTIVES (15 credits)

The additional 15 credits, at least nine of which must be in the Department of Economics, must be elected from graduate-level courses. Each student's program must be approved by the student's faculty advisor.

Students admitted to the Master of Arts program must have completed 12 semester credits of economics courses or their equivalent in quarter credits, including principles of economics, microeconomic theory, and macroeconomic theory. A knowledge of mathematics and statistics sufficient for the study of econometrics and the advanced theory courses must be acquired before those courses may be attempted. The student's advisory committee will review the

student's mathematical background and will set the mathematical requirements for each student.

GENERAL COURSE INFORMATION

Course Numbering. Courses numbered in the 500-series are open to graduate students, but the class itself may be taught together with a 400-series number, a course intended for advanced undergraduates. A graduate student can achieve credit for the course by satisfying additional requirements. Courses with a 600- and 700-series are for graduate students alone and place an emphasis on graduate research and independent study.

Evening college courses are, in most cases, identical with day classes except that they are designated with an "E" following the course number.

Summer Sessions offerings are the same as those listed in this bulletin.

Specific courses scheduled for any summer session will be listed in the Summer Sessions Bulletin.

Course Interpretation. A course listed by a single number, as BUS 641, indicates that it is a one-semester course and may be offered each semester. A course listed with a double number and designated as a continuous course, consists of two semester courses, the first of which can be taken without the second, but the second of which cannot be taken without the first.

A course listed with a double number, as BUS 701-702, and designated as a year course, means that no credit will be counted toward a degree for the first semester unless followed by the successful completion of the second semester of that course.

The university reserves the right to withdraw any course or program for which there is an insufficient demand.

GRADUATE COURSES IN BUSINESS (BUS)

The following two courses are available as interdisciplinary graduate offerings to business students.

EDU 679 Educational Measurement and Evaluation. 2 lecture and 2 laboratory hours. 3 credits. A study of

group and individual tests typically employed in school testing programs will be made. Particular attention will be given to tests of intelligence, aptitude, achievement, and vocational and psychological inventories. Stress will be placed on proper interpretation and use of test results by the counselors.

GRS 660 Methods of Research. Semester course; 3 lecture hours. 3 credits. This course will deal with the basic principles of research that may be applied to problems in the field of specialization. Students will learn research terminology and techniques; they will review some of the more significant research that has been done in their fields of specialization.

506 Auditing. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 304. Auditing standards, professional ethics, audit programs and working papers, internal control, and Statements on Auditing Standards.

507 Auditing Methods. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 406. Application of auditing procedures such as auditing through, with, and around the computer; application of advanced statistical sampling plans to auditing problems for independent as well as internal auditors.

509 Governmental Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 204. Introduction to fund accounting, with emphasis on those concepts applicable to state and local governmental agencies.

510 Advanced Tax Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 405. Complex tax problems of the trust, partnership, and corporation. Particular emphasis is given to tax planning.

511 Accounting Opinions and Standards. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 304. A technical course concerned with pronouncements of the public accounting profession. The course objective is to familiarize students with present and proposed accounting opinions and standards.

519 Case Studies in Federal Income Taxation. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 405. Tax problems of corporate liquidations, corporate reorganization, collapsible corporations, and corporate capital structure.

561 Systems Project Planning. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 365. Concentrated study of planning methods and techniques required for information systems projects. On completion, students should be able to apply knowledge of systems analysis and programming to plan and carry a complete systems project.

563 Programming Laboratories. Semester course; 3 lecture hours. 1, 2, or 3 credits. Prerequisite: BUS 363. A group of laboratory courses in which the student will

study a particular programming language or subject and perform exercises and problems under supervision. With the permission of the instructor, the following course sections may be taken for one credit each: (01) Computer Center Operations, (02) COBOL (required for majors), (03) PL-1, (04) FORTRAN, (05) BASIC, (06) ASSEMBLER, (07) Statistical Packages, (08) Simulation Languages. Permission of the department chairman required for more than three credits.

564 Complex Information Systems. Semester course; 3 lecture hours. 3 credits. Prerequisite: senior standing in information system study. Designed to prepare students for development of systems involving integrated data bases, data base management, software, and communications processes.

566 Computer Performance Analyses. Semester course; 3 lecture hours. 3 credits. This course introduces and develops ability to devise performance measures (and analyses) for optimally configuring and balancing computer systems. Involves lecture, discussions, and applied software problem assignments and software.

568 Direction and Coordination of Information Systems Organizations. Semester course; 3 lecture hours. 3 credits. Prerequisite: open only to seniors in information systems. A study of management techniques as applied to direction and coordination of information systems personnel and organizations. Involves readings, group discussion, and case study assignments.

575 Field Consulting in Marketing. Semester course; 3 credits. Prerequisite: BUS 671. Students apply their knowledge to the resolution of actual marketing problems faced by smaller, Richmond-area organizations.

577 Topic Seminar in Marketing. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 670 or equivalent. In depth treatment within a seminar format of a timely topic within marketing. The topic will vary from semester to semester.

600 Quantitative Methods for Decision Making. Semester course; 3 lecture hours. 3 credits. An introduction to quantitative methods for solving business problems. Designed for graduate business students without adequate undergraduate preparation in quantitative analysis. Practical applications to business situations are stressed. May not be included in the 30 semester credits of advanced work required for any of the master's degrees offered by the School of Business.

601 Accounting Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: 15 hours of accounting or permission of instructor. The historical development of accounting thought and the way it has been influenced by social, political, and economic forces. *Analysis* of the structure and methodology emphasizes objectives, postulates, and principles. Income determination and asset equity valuation, in both theory and practice.

602 Advanced Managerial Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisite: a basic course in managerial accounting or cost accounting, or permission of instructor. Advanced aspects of the use of accounting information in the management process. Cost-based decision making and control systems are related to short-and long-term objectives of the firm.

603 Tax Accounting Seminar. Semester course; 3 lecture hours. 3 credits. Prerequisite: a basic course in tax accounting or permission of instructor. Research in problems dealing with complex tax questions, giving particular attention to those peculiar to the corporation.

604 Advanced Auditing. Semester course; 3 lecture hours. 3 credits. Prerequisite: a basic course in auditing or permission of instructor. Historical development of auditing theory; theory of evidence; internal control; computer audits based upon statistical sampling; special reporting problems; ethical, legal, and social responsibilities of the independent auditor; and operations auditing.

605 Estate and Gift Taxation. Semester course; 3 lecture hours. 3 credits. Prerequisite: a basic course in tax accounting or permission of instructor. Concepts of gross estate, marital deduction, powers of appointment, gross gifts, exclusions, deductions and credits; tax aspects of estate planning.

606 International Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisite: six hours of accounting or permission of instructor. International dimensions of accounting; national differences in accounting thought and practice; problems and issues.

607 Financial Accounting. Semester course; 3 lecture hours. 3 credits. Financial accounting standards and procedures. Income determination and financial statement preparation for businesses. Business combinations, consolidations, and other complex business organizations.

608 Managerial Accounting Concepts. Semester course; 3 lecture hours. 3 credits. The use of accounting information contained in reports to management. The functions of planning, decision making, and control are studied as accounting data are reported through the firm's information system and in special analyses.

610 Business Education in Post Secondary Institutions. Semester course; 3 lecture hours. 3 credits. Role of business education in community colleges, junior colleges, post-secondary vocational-technical schools, and private business schools. Teaching special student populations. Interaction with the business community. Designed specifically for business teachers.

611 Improvement of Instruction in Typewriting.

Semester course; 3 lecture hours. 3 credits. This course is designed for experienced teachers and prospective teachers specializing in typewriting. It deals with the aims of the typewriting course, the relationship of typewriting to vocational and general education, available instructional materials, teaching aids and devices, current writings and developments, techniques for improving instruction, and practical application and demonstration at the typewriter.

612 Improvement of Instruction in Shorthand. Semester course; 3 lecture hours. 3 credits. This course is designed for experienced teachers and for prospective teachers specializing in shorthand. It deals with the aims of the shorthand and notehand courses; the relationship of shorthand and notehand to the vocational, college preparatory, and general curricula; available instructional materials; teaching aids and devices, including the most modern electronic equipment; current writings and developments; techniques for improving instruction; and demonstration lessons at critical points in the shorthand and transcription courses.

613 Current Practices in Accounting and Data Processing Programs. Semester course; 3 lecture hours. 3 credits. Content selection, resource materials, and the integration of bookkeeping, data processing, and clerical accounting in block programs.

614 Readings in Business Education. Semester course; 3 lecture hours. 3 credits. This course offers the student an opportunity to become thoroughly conversant with significant current literature. It will involve critical evaluation of an extensive selection of materials representative of research and other writing in the field of business education.

615 Cooperative Work-Study Programs in Office Education. Semester course; 3 lecture hours. 3 credits. Designed to prepare teachers in the selection, placement, supervision, and coordination of secondary school students in cooperative office work-study programs. Includes federal, state, and local legislation pertaining to the employment of youth and the requirements for funding work-study programs.

616 Advanced Office Administration. Semester course; 3 lecture hours. 3 credits. Designed to acquaint teachers with innovations in business offices. Includes methods, materials, and demonstrations related to the latest word processing and calculation techniques and equipment in up-to-date office systems.

617 Current Practice in Basic Business Education. Semester course; 3 lecture hours. 3 credits. Research findings, content selection, instructional materials, and current trends in teaching basic business subjects.

618 Trends in Business Education. Semester course; 3 lecture hours. 3 credits. Developments, contributions, and problems of business education in high school and college curricula; philosophy of vocational preparation, professional organizations, legislation, and other trends in the field.

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619 Office Procedures in Block Programs. Semester course; 3 lecture hours. 3 credits. Current literature, research findings, and current practices in teaching office procedures in secondary schools.

620 Financial Concepts of Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 607 or 203-204. A study of the essential concepts of financial management including working capital management, capital budgeting, capital structure planning, and dividend policy. Not open to students who have completed BUS 311 or the equivalent.

621 Advanced Financial Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 311 or 620 or permission of instructor. Analysis of financial problems and policies of non-financial firms, including capital management, capital rationing and cost of capital, and capital structure.

622 Investment Policies. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 311 or 620 or permission of instructor. Investment policies of financial institutions with emphasis on long-run values.

623 Advanced Financial Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 311 or 620 or permission of instructor. Advanced theories, concepts, major structural areas, and techniques for financial decision making.

***624 Elements of Quantitative Management.** Semester course; degree program. 3 lecture hours. 3 credits. Develops an ability to interpret and analyze business data as well as to improve managerial decision-making. Topics covered are descriptive statistics, probability laws and distributions, sampling, estimation, hypothesis testing, analysis of variance, and simple regression and correlation analysis. Managerial applications are stressed.

625 Group Insurance and Pensions. Semester course; 3 lecture hours. 3 credits. Analysis of the role and costs of employee benefits in the operation of the modern organization. Includes group life and health insurance; pension plans; and emerging benefit areas.

626 Property and liability Insurance. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. An analysis of personal and business needs for property and liability insurances; the characteristics of the various coverages available, underwriting, marketing, and social problems pertaining to these forms of insurances.

627 Urban Land Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. A study of contemporary issues and practices in the development, financing, management, and marketing of urban real estate resources.

628 Issue in Land Development. Semester course; 3 lecture hours. 3 credits. Considers theories of urban development with emphasis upon location, development, and land use influences.

629 Urban Real Estate Development Analyses. Semester course; 3 lecture hours. 3 credits. Examines methodologies used for forecasting housing demand, analyzing commercial location, and for evaluating real estate investments.

630 Fundamentals of the Legal Environment of Business. Semester course; 2 lecture hours. 2 credits. The legal environment of business with emphasis on the development of the law, contracts, sales, business organizations, and commercial paper. Not open to students who have completed BUS 323 or the equivalent.

631 Advanced Labor Law and Legislation. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 323 or permission of instructor. Advanced labor law and legislation with pertinent causal factors; administrative and juridical determination to date. Not open to students who have completed BUS 427.

632 Statistical Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 624 or equivalent. Review of statistical inference, nonparametric tests, analysis of variance, multiple regression and correlation, forecasting techniques, discriminant and factor analysis as used in business decisions.

633 Issue in Labor Relations. Semester course; 3 lecture hours. 3 credits. The conceptual framework of labor relations; the interconnection between labor-management relations and the sociopolitical environment.

634 Advanced Labor Relations. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 633. The negotiation and administration of collective bargaining contracts; the handling of grievances.

635 Security Analysis and Portfolio Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 311 or 620 or permission of instructor. The process of investing in stocks and bonds, from the analysis of individual securities to portfolio formation and evaluation.

636 Practicum in Transcription Techniques. Semester hours; 3 lecture hours. 3 credits. Prerequisite: certification by the state of Virginia to teach advanced shorthand, typewriting, and transcription, or approval of instructor. Designed for teachers of advanced shorthand and transcription. Encompasses the integration of shorthand and typewriting skills with the conventions of written English.

637 Advanced Personnel Administration. Semester course; 3 lecture hours. 3 credits. A critical analysis of the functions and problem areas related to personnel

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administration in a large organization; philosophy of personnel administration; employee recruiting, testing, and wage and salary administration and supplemental compensation systems; manpower, training, and development; employee services; the legal environment of personnel administration.

638 Real Property Investment Law. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 323 or equivalent. Covers legal aspects of real property development from acquisition through disposition; emphasizes selection of appropriate ownership form, financing, operation, and tax considerations.

640 Management Theory and Practice. Semester course; 3 lecture hours. 3 credits. Theories, principles, and fundamentals applicable to contemporary management thought and productive activities. Not open to students who have completed BUS 320 or the equivalent.

641 Organization Theory. Semester course; 3 lecture hours. 3 credits. Traditional and contemporary theories of organization and organizational behavior applied to a variety of organizations, both public and private; the influence of the organization on human behavior; and the management of change within organizations.

642 Business Policy. Semester course; 3 lecture hours. 3 credits. Integration of principles and policies of business management from the fields of accounting, economics, marketing, finance, statistics, and management in the solution of broad company problems and in the establishment of company policy. Emphasis on interaction of disciplines in efficient administration of a business. Course employs case analysis approach.

643 Systems Management. Semester course; 3 lecture hours. 3 credits. The application of systems theory and principles to the operation of contemporary organizations, with emphasis on non-quantitative methods of analysis.

644 International Business Management. Semester course; 3 lecture hours. 3 credits. Survey course for students interested in international and multinational management. Review of historical, governmental, monetary, and cultural issues affecting the transfer of resources and management knowledge across national boundaries; multinational business and management strategies; study of management practices in selected countries.

645 Operations Research. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 624 or equivalent. Business problems in production, inventory, finance, marketing, and transportation translated into

mathematical models; strengths and weaknesses of such translations. Solution procedures and their limitations.

648 Managerial Decision Making. Semester course; 3 lecture hours. 3 credits. Formal analytical techniques used by management in reaching decisions, with emphasis on the quantitative analysis of executive level problems.

650 Guided Study in Business. Semester course; 3 lecture hours. 1, 2, or 3 credits. Graduate students wishing to do research on problems in business administration or business education will submit a detailed outline of their problem. They will be assigned reading and will prepare a written report on the problem.

651 Workshop in Machine Shorthand. Semester course; 3 lecture hours. 3 credits. A course designed for prospective teachers of machine shorthand to provide a knowledge of machine shorthand theory, a development of basic recording skills, and an examination of machine shorthand teaching procedures.

652 Advanced Business Communication. Semester course; 3 lecture hours. 3 credits. Development of skill in planning and writing business reports and other shorter written communications, conducting business research, delivering oral presentation, and using business communication media.

660 Business Information Systems. Semester course; 2 lecture hours. 2 credits. Introduces computer organization, programming, computers in management decision making, and systems analysis and design. Not open to students who have completed BUS 360 or the equivalent.

661 Information Systems Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 660 or equivalent. Familiarizes students with the concepts and methodologies inherent in design and development of management information systems.

662 Information Systems Policy Seminar. Semester course; 3 lecture hours. 3 credits. Prerequisites: prior study in information systems or permission of department chairman. A study of policy topics relevant to management and administration of an information systems organization.

663 Information Systems Procurement and Contracting. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Study of methods and techniques involved in procurement of ADP equipment, software, materials, and services; in contracting and in contract management.

664 Topics in Information Systems Administration. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Study of current topics of concern to administrators of information systems

³Foundation courses may not be included in the 30 semester credits of advanced work required for any of the master's degrees offered by the School of Business. See preceding page.

organizations. Covers technical, management, and policy subjects.

670 Concepts and Issues in Marketing. Semester course; 3 lecture hours. 3 credits. Designed for graduate students with little or no undergraduate education in marketing. A study of the philosophy, environment, and practice of contemporary marketing.

671 Advanced Marketing Strategy. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 670 or equivalent. Detailed study of concepts and procedural alternatives in the delineation of the market target, the development and implementation of the marketing mix, and the control and analysis of the total marketing effort.

672 Concepts in Consumer Behavior. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 670 or equivalent. A study of the pertinent psychological, sociological, and anthropological variables that influence consumer activity and motivation.

675 Societal Issues in Marketing. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 670 or equivalent. Examines in depth a number of significant and contemporary issues associated with the field of marketing.

701-702 Thesis. Year course; 3 lecture hours. 6 credits. Graduate students will work under supervision in outlining a graduate thesis and in carrying out the thesis. No grade will be given for this course until the thesis has been completed and accepted.

703 Field Project. Semester course; 3 lecture hours. 3 credits. Students will work under the supervision of a faculty advisor in planning and carrying out a practical research project. A written report of the investigation is required.

705 Business Research Seminar. Semester course; 3 lecture hours. 3 credits. This course is designed to provide research experience for candidates not following the BUS 701-702 program. Assignments will be made to major research projects being conducted by the School of Business. Enrollment is restricted to students in their final semester of the degree program.

Department of Economics (ECO)

502 Business Cycles and Forecasting. Semester course; 3 lecture hours. 3 credits. This course examines the nature of cyclical variations in economic activity; the measurement of economic fluctuations; analysis of business cycle theory; control of business cycles; stresses modern business forecasting techniques.

512 Regional Economics. Semester course; 3 lecture hours. 3 credits. A course to familiarize students with

sources and uses of standard data on employment, income, and population, and to provide an introduction to economic base theory as used in Regional Economics. Application to theory to make and analyze economical and demographic projections for regions in Virginia. Analysis of operation and impact of area economic development programs.

521 Government and Business. Seminar course; 3 lecture hours. 3 credits. Designed primarily to study the many ways in which business and economic life are directed by government. Topics covered include the economics of monopoly power, the anti-trust laws, and their application and enforcement.

531 Labor Economics. Semester course; 3 lecture hours. 3 credits. The objective of this course is to acquaint the student with the nature and causes of labor-management problems in the United States. Subjects included are the historical background of labor movements, theories of labor movements, wage theories, theories of employment, labor legislation, and collective bargaining.

532 Manpower Economics. Semester course; 3 lecture hours. 3 credits. Considers supply features of the labor market. Emphasis upon evaluating existing federal manpower programs and the effectiveness of manpower and training strategies designed to increase employment.

601 Contemporary Economic Problems. Semester course; 3 lecture hours. 3 credits. An analysis of major economic problems confronting the United States today. Problems to be covered will be chosen according to their current significance. Among the important problems now facing us in this country are those relating to economic growth, to unemployment, to inflation, to international relationships, to labor-management relationships, and to the role of the government. Not open to economic majors.

602 Comparative Economic Systems. Semester course; 3 lecture hours. 3 credits. Surveys the organization, operation, and performance of capitalism, socialism, and the centrally planned economy.

603 History of Economic Thought. Semester course; 3 lecture hours. 3 credits. A survey of the principal contributions to the development of economic theory by leading economists from medieval times to the present.

604 Advanced Microeconomic Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: undergraduate course in intermediate microeconomic theory or theory of the firm. Theory of prices and markets; value and distribution. Partial and general equilibrium analysis.

605 Economic Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: 12 semester hours of economics. Examination of problems of poverty and economic policies in developing countries. Areas

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considered are Southeast Asia, Middle East, Africa, and Latin America.

606 Urban Economic Problems. Semester course; 3 lecture hours. 3 credits. A study of the location of economic activity, zoning, blight and unemployment, urban renewal, and redevelopment programs.

607 Advanced Macroeconomic Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: undergraduate course in macroeconomic theory. National income analysis, monetary and fiscal theory and policy, and general equilibrium analysis.

609 Advanced International Economics. Semester course; 3 lecture hours. 3 credits. An advanced level examination of why trade occurs, balance of payments concept and adjustment, international equilibrium, forward exchange, markets, international investment, and international organizations.

610 Managerial Economics. Semester course; 3 lecture hours. 3 credits. Analysis of business decisions applying tools of economic theory. Decisions on demand, production, cost, prices, profits, and investments.

***611 Concepts in Economics.** Semester course; 3 lecture hours. 3 credits. Essential economic concepts including the price system, price determination in imperfectly competitive markets, employment theory, and monetary theory. Not open to students who have completed ECO 201 and 202 or the equivalent.

612 Econometrics. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 401 or equivalent or permission of instructor. Provides empirical content to the theoretical concepts of economics by formulating and estimating models. Introduction to simultaneous equation problems in economics and the studies of production, demand, and consumption functions.

614 Mathematical Economics. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 403 or equivalent or permission of instructor. Economic analysis utilizing simple mathematical methods. Includes derivation and exposition of theories and the

application of tools to widen the scope and increase the usefulness of economics.

616 Advanced Public Finance. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 306 or equivalent or permission of instructor. Theory and application of public finance, including taxation, expenditures, and budgeting. Special attention to cost-benefit analysis and to intergovernmental relations in a federal system.

617 Financial Markets. Semester course; 3 lecture hours. 3 credits. Prerequisites: money and banking, intermediate macroeconomics. Theories of markets for loanable funds are related to empirical findings and institutional structures. Yields of financial assets, kinds of debt instruments, financial institutions, public policy, financial models, and the role of money and credit in economic growth are considered.

619 Advanced Monetary International Trade Theory. Semester course; 3 lecture hours. 3 credits. The course examines the current international monetary system, the balance of payments, fixed vs. flexible exchange rate systems and fiscal and monetary adjustment mechanisms to correct balance of payments disequilibrium.

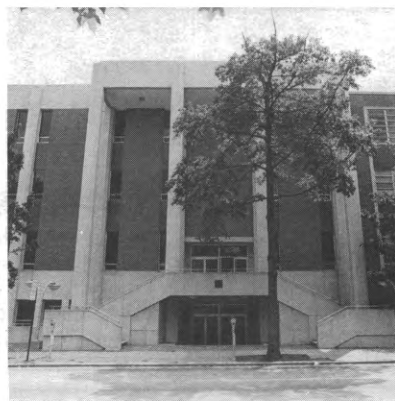
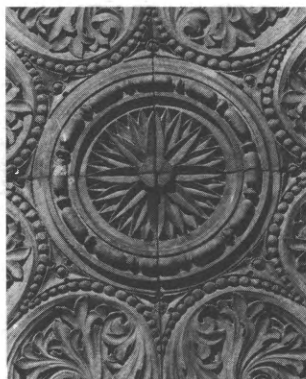
682 An Economic Approach to Environmental Issues. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. The effect of externalities in terms of efficiency and equity considerations. The role and problems of benefit-cost analysis in decision making is developed. The interrelationship of air, water, and land quality issues is analyzed. The use rate of natural resources, energy consumption, and the steady state economy and their impacts are evaluated.

701-702 Thesis in Economics. Year course; 3 lecture hours. 6 credits. Graduate students will work under supervision in outlining a graduate thesis and in carrying out the thesis. No grade will be given for this course until the thesis has been completed and accepted.

CERTIFICATE PROGRAMS

In addition of the preceding courses of study, the School of Business also offers certificate programs in information systems and accounting. For further information contact the director of graduate studies in business.

³Foundation courses may not be included in the 30 semester credits of advanced work required for any of the master's degrees offered by the School of Business.



School of Community Services

The School of Community Services was established in September 1969, in recognition of the need for interdepartmental and interdisciplinary relationships in providing better solutions to human problems in a complex society which is rapidly becoming urbanized.

The school offers a Bachelor of Science degree in the fields of administration of justice and public safety, recreation, urban studies and planning, and rehabilitation services.

Graduate study, leading to the Master of Science degree, is offered in the Department of Rehabilitation Counseling. Also, the school offers the following degrees: Master of Urban and Regional Planning, Master of Science in Administration of Justice and Public Safety, and Master of Science in Public Administration.

Department of Administration of Justice and Public Safety

The graduate program in administration of justice and public safety is designed to provide advanced educational preparation for practitioners and students pursuing careers in the fields of criminal justice or juvenile justice. Such preparation includes

understanding appropriate theoretical positions and developing appropriate professional skills.

The Master of Science in Administration of Justice (MS) is a one year degree program requiring 36 semester hours of classwork. Four separate options are available, designed to meet specific needs of differing students. These options are:

Intervention/Prevention—for the practitioner or student interested in developing treatment or case management skills appropriate for counseling positions, probation or parole positions, or correctional institutions.

Program Management (Administration)—for the practitioner or student interested in developing skills appropriate for middle and upper level management positions in criminal justice.

Research—for the practitioner or student interested in developing research evaluation related skills, or planning to pursue the Ph.D. degree.

Manpower Development—for the practitioner or student interested in training positions in criminal or juvenile justice agencies, and/or community college level education.

Within each option, students take appropriate graduate courses from AJPS faculty

and other selected departments in the university. Each option includes sufficient flexibility for the student to elect to emphasize areas of specialized professional interest. The Department of Administration of Justice offers students the opportunity to complete the equivalent of a minor in several related fields: public administration, rehabilitation counseling, sociology, and urban planning. A two-course foundation sequence is required for all students who do not hold an undergraduate degree in criminal justice; field placement opportunities will be available for students without field experience.

The program is designed to accommodate both full- and part-time students. Nearly all courses are available in the evenings after 4 p.m.; weekend courses are also offered for students desiring to commute to Richmond on a work-study basis.

The Master of Science in the Administration of Justice program was established in 1975 in response to a clear expression of need from the justice field, and as an outgrowth of the undergraduate administration of justice and public safety program. Presently there are 12 full-time faculty members in administration of justice, in addition to four adjunct faculty members teaching in specialized areas. Part-time instructors from the Washington, D.C., area augment the full-time faculty.

WORK STUDY

A work study program is available for those students only able to come to classes on weekends. The program is presented on a split intensive basis including weekends during the semester. Several such courses will be offered each year permitting students to take all administration of justice and public safety courses necessary to graduate over a period of four years. Graduate courses in the Program Management option are also available in Northern Virginia. Students should register for work study courses through the Evening College in the usual manner.

ADMISSIONS

Beyond the general admissions standards listed in the General Information section,

applicants will be evaluated by the Departmental Admissions Committee in two general areas: evidence of the ability to perform satisfactorily at the graduate level, and evidence of commitment and potential for contribution to the field of criminal justice. Admissions evaluations will be based on:

An undergraduate grade point average of at least 2.7.

Satisfactory score as determined by the Departmental Admissions Committee on the Aptitude Test (verbal and quantitative sections) of the Graduate Record Examination. Advanced tests are not required and may not be substituted for the Aptitude Test.

Previous evidence of ability to perform graduate level work (such as graduate level coursework with grade of "B" or above).

Assessment of prior experience or potential in criminal justice and related areas.

Applicants will be evaluated in all of the above areas by the Departmental Admissions Committee.

An admissions appeal process exists whereby an applicant may petition in writing his denial of admission to the department chairman for review by the School of Community Services Graduate Council.

REQUIREMENTS AND PROCEDURES FOR ADMISSION

1. The applicant is required to make application on approved application forms.
2. Two copies of the official transcript from an accredited institution showing that a bachelor's degree was awarded must be submitted to the Admissions Committee. In addition, official transcripts of all work undertaken beyond the bachelor's degree must be submitted.
3. All applicants must have achieved an acceptable undergraduate grade point average and have received a qualifying score, as determined by the Departmental Admissions Committee, on the Standard Aptitude Test of the Graduate Record Examination.
4. At least three letters of reference must be received from persons familiar with the applicant's personal character, ability, and potential.
5. The application must include a state-

ment of reasons for desiring to enter into graduate study in the administration of justice at Virginia Commonwealth University.

6. The deadline for application for the fall semester is July 15; the deadline for the spring semester is November 15.

MULTIPLE ADMISSIONS

No student may be admitted as a degree-seeker in more than one graduate program in the School of Community Services without petitioning and receiving written permission from the Graduate Council of the School of Community Services.

READMISSION AFTER ACADEMIC SUSPENSION

A student suspended for academic reasons from any graduate program within the School of Community Services may not apply for readmission to the program from which she/he was suspended or for admission to any other graduate program within the school until two academic years have elapsed from the date of suspension. A student who applies for readmission or admission to any graduate program within the school who is denied admission by the program applied for may appeal by petitioning that denial to the School of Community Services Graduate Council for a reconsideration of her/his application.

TRANSFER CREDIT

At the time of acceptance of a student into the program, a maximum of nine semester hours of graduate credit may be applied toward a Master of Science degree in the Department of Administration of Justice and Public Safety. Decisions to accept transfer credit or to deviate from this policy will be made by the Departmental Admissions Committee.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN ADMINISTRATION OF JUSTICE (In addition to those listed in the General Information Section)

1. A student must complete a minimum of 36 graduate semester credits approved by the chairman.

2. Qualified applicants who are employed and meet all entrance requirements may complete the requirements for the degree by studying as full- or part-time students during the regular academic year; either in the day school, Evening College, or work study program, and during the Summer Sessions.

3. A student without acceptable experience in administration of justice must complete a supervised field placement under the direction of the department and the immediate supervision of a qualified person in an approved agency or facility.

4. All students must pass a comprehensive examination. It is administered after the student has completed a minimum of 24 graduate credits. This examination is in conjunction with a faculty committee review of research project (691).

5. Degree applicants shall have received an overall grade point average of 3.0 ("B").

6. A student who receives a grade of "C" or below on more than six credit hours of work will be automatically dropped from a program. (Exceptions may be made to this policy by petitioning and receiving written permission from the School of Community Services Graduate Council). No graduate credit shall be given for any work for which a grade less than "C" is given.

7. Full-time graduate status shall consist of a minimum of nine and a maximum of 16 credits per semester. A maximum of 12 semester credits may be earned in summer sessions each summer.

8. Students must continually show acceptable professional behavior to be retained in the graduate program.

9. All requirements for the degree must be completed within seven years from the date of admission to graduate study. This time limitation applies to both full- and part-time students.

CORRESPONDENCE AND INFORMATION

Further information may be obtained by either writing to James D. Stinchcomb, Chairman, Department of Administration of Justice and Public Safety, Virginia Commonwealth University, 901 West Franklin Street, Richmond, Virginia, 23284, or by telephoning (804) 770-1252 or 770-6761.

PROGRAM OPTIONS**INTERVENTION/PREVENTION OPTION**

| | <i>Credits</i> |
|--|----------------|
| AJP 501 ¹ Behavior and Justice System Intervention | 3 |
| AJP 502 ¹ Judicial Process and Intervention .. | 3 |
| AJP 511 Research and Evaluation in Administration of Justice | 3 |
| RCO 611 Principles, Methods, and Techniques in Rehabilitation Counseling | 3 |
| RCO 612 Principles, Methods, and Techniques in Rehabilitation Counseling (Group Methods) | 3 |
| RCO 637 Introduction to Field Experience (Practicum) | 3 |
| AJP 600 Seminar: Innovations in Administration of Justice | 3 |
| AJP 691 Independent Study | 3 |
| Select two: | 6 |
| AJP 555 Community-Based Corrections (3 credits) | |
| AJP 611 Delivery of Services in Administration of Justice (3 credits) | |
| AJP 621 Prevention and Diversion in Administration of Justice (3 credits) | |
| AJP 655 Planning and Politics of Community-Based Corrections (3 credits) | |
| AJP 661 Case Management in Justice and Public Safety (3 credits) | |
| Recommended Electives | 6 |
| Total | 36 |

PROGRAM MANAGEMENT OPTION

| | <i>Credits</i> |
|---|----------------|
| AJP 501 ¹ Behavior and Justice System Intervention | 3 |
| AJP 502 ¹ Judicial Process and Intervention .. | 3 |
| AJP 511 Research and Evaluation in Administration of Justice | 3 |
| AJP 611 Delivery of Services in Administration of Justice | 3 |
| AJP 631 Public Safety: Administrative Trends and Issues | 3 |
| AJP 600 Seminar: Innovations in Administration of Justice | 3 |
| AJP 691 Independent Study | 3 |
| Select three: | 9 |
| AJP 574 Correctional Institution Development and Design (3 credits) | |
| AJP 612 Public Safety: Policy Issues in the Administration of Justice (3 credits) | |
| AJP 621 Prevention and Diversion in Administration of Justice (3 credits) | |
| AJP 622 Public Safety: Comparative Systems (3 credits) | |
| AJP 655 Planning and Politics of Community-Based Corrections (3 credits) | |

¹For those with appropriate undergraduate preparation, an additional six hours of approved elective credit may be substituted.

²An applied social science statistics course may be substituted for SOC 608.

| | |
|--|-----------|
| AJP 600 Public Safety: Legal Systems (3 credits) | |
| AJP 661 Case Management in Justice and Public Safety (3 credits) | |
| Recommended Electives | 6 |
| Total | 36 |

RESEARCH AND EVALUATION OPTION

| | <i>Credits</i> |
|---|----------------|
| AJP 501 ¹ Behavior and Justice System Intervention | 3 |
| AJP 502 ¹ Judicial Process and Intervention .. | 3 |
| AJP 511 Research and Evaluation in Administration of Justice | 3 |
| AJP 512 Advanced Research and Evaluation | 3 |
| AJP 600 Seminar: Innovations in Administration of Justice | 3 |
| AJP 699 Thesis | 3 or 6 |
| SOC 608 ² Advanced Statistical Methods (3 credits) | |
| Select two: | 6 |
| AJP 555 Community-Based Corrections (3 credits) | |
| AJP 574 Correctional Institution Development and Design (3 credits) | |
| AJP 611 Delivery of Services in the Administration of Justice (3 credits) | |
| AJP 621 Prevention and Diversion in Administration of Justice (3 credits) | |
| AJP 622 Public Safety: Comparative System | |
| AJP 655 Planning and Politics of Community-Based Corrections (3 credits) | |
| AJP 660 Public Safety: Legal Systems (3 credits) | |
| Recommended Electives | 6 or 9 |
| Total | 36 |

MANPOWER DEVELOPMENT (EDUCATION AND STAFF TRAINING) OPTION

| | <i>Credits</i> |
|---|----------------|
| AJP 501 ¹ Behavior and Justice System Intervention | 3 |
| AJP 502 ¹ Judicial Process and Intervention .. | 3 |
| AJP 511 Research and Evaluation in Administration of Justice | 3 |
| AJP 621 Prevention and Diversion in Administration of Justice | 3 |
| AJP 600 Seminar: Innovations in Administration of Justice | 3 |
| AJP 691 Independent Study | 3 |
| Select two: | 6 |
| AJP 574 Correctional Institution Development and Design (3 credits) | |
| AJP 611 Delivery of Services in Administration of Justice (3 credits) | |

¹For those with appropriate undergraduate preparation, an additional six hours of approved elective credit may be substituted.

²An applied social science statistics course may be substituted for SOC 608.

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| | |
|---|----|
| AJP 612 Public Safety: Policy Issues in the Administration of Justice (3 credits) | |
| AJP 622 Public Safety: Comparative Systems (3 credits) | |
| AJP 631 Public Safety: Administrative Trends and Issues (3 credits) | |
| AJP 655 Planning and Politics of Community-Based Corrections (3 credits) | |
| AJP 660 Public Safety: Legal Systems (3 credits) | |
| AJP 661 Case Management in Justice and Public Safety (3 credits) | |
| Select one: | 3 |
| EDU 687 The Adult Learner (3 credits) | |
| EDU 688 Instructional Strategies for Adults (3 credits) | |
| EDU 698 Adult Education Seminar (3 credits) | |
| Recommended Electives | 9 |
| Total | 36 |

GRADUATE COURSES IN ADMINISTRATION OF JUSTICE (AJP)

501 Behavior and Justice System Intervention. Semester course; 3 lecture hours. 3 credits. A survey of factors associated with human behavior as related to crime prevention and justice system intervention. Emphasis is placed on the sociopath, aggressive offender, sub-cultural client of the justice system, and the youthful delinquent. (Graduates of appropriate undergraduate curricula may obtain permission to substitute this course.)

502 Judicial Process and Intervention. Semester course; 3 lecture hours. 3 credits. A survey of the theoretical and historical foundations of juvenile and criminal law, American judicial system, and system intervention. Includes review of juvenile and criminal courts, issues related to placement and sentencing practices, and relationship of the legal process to prevention and intervention. (Graduates of appropriate undergraduate curricula may obtain permission to substitute this course.)

511 Research and Evaluation in Administration of Justice. Semester course; 3 lecture hours. 3 credits. Examination of juvenile and criminal justice research and evaluation, emphasizing principles of design, methodology, analysis, and interpretation of data. Ascertains the reliability, validity, and applicability of justice system research.

512 Advanced Research and Evaluation. Semester course; 3 lecture hours. 3 credits. Exploration of more sophisticated justice system research techniques and methodologies. Students design methods of applying research and evaluation principles to actual operational problems in the justice and safety systems.

555 Community-Based Correctional Programs. Semester course; 3 lecture hours. 3 credits. A com-

prehensive overview of community correctional programs is offered. Probation and parole are covered in detail.

574 Correctional Institution Development and Design. Semester course; 3 lecture hours. 3 credits. Examines the various concepts, theories, and techniques involved in development of modern correctional treatment processes as they influence design of correctional institutions, including community-based facilities. Students analyze current designs and architectural innovations in corrections, with major consideration directed toward the national standards for correctional architecture.

600 Seminar: Innovations in Administration of Justice. Semester course; 3 lecture hours. 3 credits. Seminar in administration of justice topics, including new intervention and prevention techniques, victimization and data analysis, impact of juvenile and correctional law and court decisions, and other current pertinent issues. (One semester required for all graduate students; may be repeated once as an elective).

611 Delivery of Service in Administration of Justice. Semester course; 3 lecture hours. 3 credits. Analyzes contemporary and innovative practices in delivery of public safety services with emphasis on administrative, organizational, and management principles. Includes discussion emphasis on managing change and long-range planning within juvenile justice, criminal justice, and public safety agencies or programs.

612 Public Safety: Policy Issues in the Administration of Justice. Semester course; 3 lecture hours. 3 credits. Examines critical public policy issues relating to the administration of justice in terms of society's interests. Emphasizes policy and planning implications of: interagency relationships, the impact of social change in the criminal justice process, and community involvement in the control and prevention of crime in an urbanized society. Special attention is directed to the distribution of crime and disturbance, the development of public safety indicators, and the alternative for governmental response.

621 Prevention and Diversion in Administration of Justice. Semester course; 3 lecture hours. 3 credits. Evaluates recent developments in preventive techniques and strategies related to juvenile delinquency and youthful or adult offenders. Considerable attention devoted to theories and practices associated with diversion of juveniles and adults from the formal justice system, and to workable models for crime and delinquency prevention programs.

622 Public Safety: Comparative Systems. Semester course; 3 lecture hours. 3 credits. Study of contemporary national and international criminal justice and public safety systems, emphasizing their comparative aspects. Critique of major hypotheses; review of recent developments and contributions of operational agencies and academic institutions through projects and research.

631 Public Safety: Administrative Trends and Issues. Semester course; 3 lecture hours. 3 credits. Examines administrative behavior and organizational theory in criminal justice and public safety agencies. Analyzes substantive administrative concepts, program planning and development, and innovative management practices.

655 Public Safety: Planning and Politics of Community-based Corrections. Semester course; 3 lecture hours. 3 credits. Examines the process of planning community-based correctional programs. Administrative problems related to budgeting, staffing, and managerial policy-making are considered. Political considerations in introducing innovative correctional programs which involve the community and criminal justice agencies are reviewed as part of the planning process.

660 Public Safety: Legal Systems. Semester course; 3 lecture hours. 3 credits. Comparative study of the formal and informal procedures of various criminal justice systems. Examines the major constraints and authorizations of the legal and judicial systems on arrest, prosecution, trial, sentencing, appeal, and the general operations of the criminal justice system.

661 Case Management in Justice and Public Safety. Semester course; 3 lecture hours. 3 credits. Discussion of concepts, processes, and implications related to determination and implementation of management philosophies and strategies for achieving productivity and accountability within justice and safety agencies. Individual priority needs of the citizen/client are assessed and compared with concerns for public safety, costs, and other administrative factors.

691 Independent Study in Administration of Justice. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of department chairman. Readings, individual research, or field placement in juvenile or criminal justice agencies. Completion of this course requires a research project on an issue pertinent to the student's graduate program needs and career interests.

699 Thesis. 3 or 6 credits. Permission of instructor and appropriate research courses.

REQUIRED COURSES AND RECOMMENDED ELECTIVES FROM OTHER DEPARTMENTS

Business (BUS)

509 Governmental Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 204. Introduction to fund accounting with emphasis on those concepts applicable to state and local governmental agencies.

643 Administrative Systems. Semester course; 3 lecture hours. 3 credits. The systems approach to management utilizing scientific analysis to provide

decision-making information in complex organizations. Major topics include: history and trends of management systems; systems concepts; problem solving and decision making as related to systems; design of management systems; and the behavior aspects of management systems.

Education (EDU)

571 Education of Self. Semester course; 3 lecture hours. 3 credits. Designed to explore personal concerns of identity, relationship, and power in a group setting; preparatory training for small group leadership and/or teaching, utilizing humanistic education constructs, techniques, and procedures. Participants are assisted in identifying their concerns, discovering their patterns of emotional and behavioral responses, examining the consequences of these patterns, and generating and "trying on" alternative behaviors, thus examining awareness of strategies for learning about self and others.

645 Public Relations Principles. Semester course; 2 lecture hours. 2 credits. Basic factors in communications are applied to the public relations responsibilities of the teacher-coordinator and supervisor. The message, the audience, the media, and personal effectiveness are included.

648 Preparation of Instructional Materials. Semester course; 3 lecture hours. 3 credits. Development of materials for the classroom with an emphasis on determining medium, designing the message, producing the material, and evaluating the effect. The design of these materials will be predicated on the learning modes and instructional styles.

649 Educational Media: Theory and Practice. Semester course; 3 lecture hours. 3 credits. An analysis of educational media with emphasis on the use of media in instructional design and development of teaching strategies.

686 The Adult Education Movement. Semester course; 3 lecture hours. 3 credits. The historical development of the adult education movement will be traced. Important events, laws, and personalities will be studied with emphasis on the philosophical foundations and social imperatives inherent in the concept of life-long learning. The effect of adult education history on the present will be analyzed with particular emphasis on future trends.

687 The Adult Learner. Semester course; 3 lecture hours. 3 credits. The physiological, psychological, and socioeconomic characteristics of adults will be studied. Particular emphasis will be placed on the differences between socio-economic groups and the changes that occur with aging. The special characteristics of the disadvantaged and deprived will be analyzed. Relevant learning theories and their implications for adult education will be explored.

688 Instructional Strategies for Adults. Semester

course; 3 lecture hours. 3 credits. Prerequisite: EDU 687. Systematic curriculum development models and specific teaching techniques that are effective with adults will be studied. Emphasis will be placed on individualizing instruction and the use of multi-media strategies. The specific concepts of media centers, learning centers, and programmed learning will be explored. Special attention will be given to techniques for the disadvantaged and undereducated.

694 The Community College, Its History and Development. Semester course; 3 lecture hours. 3 credits. Educational philosophy and its implementation will be reviewed to find the relationship and justification for the establishment of two year institutions of higher education. Particular emphasis will be placed on the evolution of the comprehensive community college.

696 Adult Program Management and Evaluation. Semester course; 3 lecture hours. 3 credits. Various administrative theories and patterns of management appropriate for adult programs, as well as management principles and techniques will be studied. Emphasis will be placed on program promotion, staff recruitment, in-service training, student personnel services, and program evaluation. The various evaluation models will be studied. Formative evaluation will be stressed to improve instructional strategies, validate student diagnosis and placement, and to restate program objectives.

698 Adult Education Seminar. Semester course; 3 lecture hours. 3 credits. Restricted to second semester graduate students. Current problems in adult education are identified and discussed. Each student will review and report on research that is related to the problems identified. Emphasis will be on the synthesis and application of skills and knowledge gained in current and prior graduate courses.

Psychology (PSY)

507 Abnormal Psychology. Semester course; 3 lecture hours. 3 credits. The development of personality is discussed with emphasis on factors leading to maladjustment. Lectures and readings cover the symptom groups of emotional disorders of both psychological and organic origin. Methods of assessing and treating these disorders are surveyed.

508 Forensic Psychology. Semester course; 3 lecture hours. 3 credits. An analysis of the motivation of criminal behavior as a social-psychological disorder; types of crime and the personality evaluation of juvenile delinquency and criminals; psychological analysis of lawbreakers, habitual offenders, and criminals; psychological treatment in prison; psychology of sexual offenders, drug addicts, and alcoholics as lawbreakers.

509 Personality. Semester course; 3 lecture hours. 3 credits. The study of the various approaches to understanding human behavior in terms of personality theory. Various theories will be examined for commonality and uniqueness in assumptions, structure, dynamics, and development of personality.

511 Survey of Psychological Tests. Semester course; 3 lecture hours. 3 credits. Prerequisite: PSY 214. Concepts in psychological measurement and a survey of commonly used group tests; testing procedures and rationale underlying these tests; tests of intelligence, aptitude, achievement, interest, and personality critically examined; procedures described for selecting and evaluating specific group tests in these areas.

609 Design of Psychological Experiments. Semester course; 3 lecture hours. 3 credits. The application of analysis of variance, randomization tests, analysis of ranks, and chi square to designs involving groups, matched groups, repeated treatment, and repeated measurement, where the dependent variable is behavioral.

623 Counseling and Psychotherapy. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Exploration of major trends in psychotherapeutic techniques and current research. Principles of therapy applied to personal, social, vocational, and educational problems.

627 Statistics in Psychological Research. Semester course; 3 lecture hours. 3 credits. Applications of descriptive and inferential statistics including significance testing and parameter estimation in empirical and experimental research on human and animal behavior.

630 Social Psychology. Semester course; 3 lecture hours. 3 credits. Topics include attitudes, social influence processes, person perception, affiliation and attraction, group processes, cultural influences on behavior, and conformity.

Graduate Program in Public Administration

The Graduate Program in Public Administration is a professional program which leads to the degree of Master of Public Administration (M.P.A.). The emphasis of the Graduate Program in Public Administration is to professionally educate the individual in the responsibilities of public sector administration. It is not intended to generate specialists or to emphasize policy analysis skills above those required by the generalist administrator.

The program is generalist in nature; thus, 31 of the 45 credit hours are devoted to a core curriculum of required courses. Students may use 14 hours to pursue an area of interest; however, a specialization is not required and these 14 hours may be used to pursue additional generalist courses. A three hour practicum in a non-profit agency

or a governmental organization providing public services completes the program.

CORE CURRICULUM

In the generalist portion of the program, four broad areas of course work are offered in order to strike a balance between theory and application. These are:

- I. The Political, Social, and Economic Context of Public Administration
- II. Public Organization Management Processes and Behavior
- III. Quantitative and Non-Quantitative Analytic Tools
- IV. Policy Analysis

SPECIALIZATION OPTION

Each student can select an area for specialization following completion of the first 12 hours of course work. The public administration program offers specializations in personnel, finance, economics, and local government. Additional specialization fields may be developed to suit the individual student's needs. This is done in conjunction with other VCU departments, such as administration of justice and public safety, urban and regional planning, social work, and hospital administration. Specializations must be approved by the student's faculty advisor.

PRACTICUM

Each student not appropriately employed in the public sector or in a non-profit agency while enrolled in the program or prior to enrollment in the program will be required to earn three hours of credit in a public service practicum. The practicum will usually be taken during the summer between the first and second year or during the last semester of course work. However, the scheduling of the practicum will be flexible enough to accommodate the needs of those students who pursue the degree on a part-time basis.

All practicums will be negotiated between the university and the host agency in terms of the scope of work to be performed by the student; the type and extent of supervision both within the agency and from the university; and, the stipend, if any, to be attached to the internship. Based on such negotiations, a learning concept will be executed

between the university, the agency, and the student.

PREREQUISITE COURSE

The Graduate Program in Public Administration is designed for students with diverse undergraduate backgrounds; however, 3 additional hours of prerequisite courses are required for students with little or no background applicable to public administration. This prerequisite course may be waived for students who present satisfactory, equivalent preparation, including successful completion of a College Level Examination Program (CLEP).

The course is BUS 640, Management Theory and Practice, a prerequisite to BUS 641, Organization Theory, which is a required element of the public administration core curriculum.

CONTINGENT ACCEPTANCE

Students who need the prerequisite courses can be accepted into the program contingent upon the satisfactory completion of this course work. The prerequisite course should be completed prior to enrollment in the PAD course work although simultaneous enrollment is possible with the consent of a student's advisor.

PART-TIME STUDY

The M.P.A. degree can be earned on a part-time basis. It is expected that once accepted on a part-time basis, the student will carry six hours during the fall term and six hours during the spring term; thus, a part-time student will complete 12 hours per academic year. In this way a student steadily progresses toward the degree.

An effort is made to accommodate the needs of the part-time students by scheduling classes in the evenings.

FULL-TIME STUDY

Full-time students take a minimum of nine and a maximum of 16 credits per semester. A maximum of 12 semester credits may be earned in the summer session.

STUDY AS A SPECIAL STUDENT

Students who wish to take courses in the

Graduate Program in Public Administration without formal admission to the program are classified as "special students." Enrollment in PAD courses is limited, and students admitted to the Graduate Program in Public Administration followed by other graduate degree seeking students at VCU are admitted to the courses prior to special students. Other graduate degree-seeking students at VCU and special students must receive the permission of the department prior to registering for PAD courses. It should be further noted that successful completion of PAD courses as a special student does not guarantee admission to the program.

If a special student is admitted to the program, he or she must petition the faculty of the Graduate Program in Public Administration to accept the credits earned as a special student as being applicable to the M.P.A. degree. Special students must have sufficient background course work to enable them to function in a PAD course. They are not exempt from the prerequisite requirements and must present evidence of satisfactory, equivalent preparation.

ADVISORY COMMITTEE FOR THE GRADUATE PROGRAM IN PUBLIC ADMINISTRATION

The Graduate Program in Public Administration is multidisciplinary in nature and draws upon the resources of several schools within the university. Members of the university faculty as well as practicing public administrators on the federal, state, and local levels serve on the Advisory Committee for the Graduate Program in Public Administration. This committee serves in an advisory capacity, offering advice and suggestions to the director and faculty regarding the policies, procedures, curriculum, and other matters pertaining to the administration of the program.

ADVISING PROGRAM

Students admitted to the Graduate Program in Public Administration are assigned an advisor from the program faculty. The students are expected to work with their advisors to plan their graduate studies. Students are responsible for knowing and *fulfilling all general and specific require-*

ments relating to the completion of the degree program.

In addition to academic counseling, the advisor is available for advice on vocational matters. Students are encouraged to seek counseling whenever there is a need.

ADMISSIONS POLICY

Applicants who have earned a bachelors degree are eligible for admission to the program on a full- or part-time basis. Selection is made on the basis of undergraduate academic performance, intellectual capacity, character, experience, and other indicators of the ability to pursue graduate studies profitably.

Full Acceptance

Students accepted in full standing must have a minimum of 3.0 grade point average on a 4.0 scale in their last 60 (semester) hours of undergraduate work and a total score of at least 1,000 on the Graduate Record Exams (GRE).

Provisional Acceptance

Students not meeting the academic performance requirements may be accepted provisionally at the discretion of the program director. Provisional acceptance requires that students earn a 3.0 grade point average in their first three courses in the PAD program.

INDIVIDUALS WITH ADVANCED DEGREES

Persons holding advanced degrees from fully accredited institutions of higher education may be given full admittance without reservation upon presentation of evidence of the award of an advanced degree. This does not eliminate any step in the admissions procedure outlined below.

Admissions Requirements and Procedures

I. The applicant is required to make application on the approved application forms.

II. Two official (stamped) transcripts must be submitted from each accredited institution where credit toward a degree was earned. The transcripts must be forwarded by the registrar of the accredited institution,

not by the individual, and must have the school seal.

III. Official results of the GRE Aptitude Test are required, or as a substitute an applicant may submit the results from the Graduate Management Admissions Test (GMAT) or the Law School Admissions Test (LSAT). Application forms for the GRE, GMAT, or LSAT may be obtained by writing to Graduate Record Examinations, Box 955, Princeton, New Jersey 08540.

IV. The applicant must submit a letter of intention stating his or her reasons for wanting to enter the Graduate Program in Public Administration at Virginia Commonwealth University.

V. References from three individuals who can evaluate the executive potential, intellectual capability, and supervisory skills of the applicant must be submitted on the approved forms. Applicants who received their undergraduate degree within the past five years are urged to request a reference from someone at their undergraduate institution.

VI. A personal interview with the public administration faculty is required. Telephone interviews may be arranged if travel to Richmond poses a hardship on the applicants.

Admissions Review Committee

Recommendations for admission will be made by a four member Admissions Review Committee composed of university faculty and public service employees, who also serve as members of the Advisory Committee for the graduate program in public administration.

Deadline for Admissions

No action can be taken regarding an application until all of the required papers are filed with the office of the Graduate Program in Public Administration. It is the applicant's responsibility to inquire if his or her admissions file is complete. Admissions files must be complete by July 15 of each year. Students are admitted only for the fall term.

TRANSFER CREDIT

A maximum of six semester hours of

acceptable graduate credit earned in a degree program at an accredited institution but not applied towards an awarded degree may be transferred and applied toward the M.P.A. degree. Such credits will be evaluated for acceptance purposes at the completion of nine semester hours of work in VCU's Graduate Program in Public Administration.

FINANCIAL AID

The Graduate Program in Public Administration has funds available for one graduate assistantship.

Financial aid information may be obtained by writing to Director of Financial Aid, Virginia Commonwealth University, 915 West Franklin Street, Richmond, Virginia 23284. It is desirable to do this prior to March 1 for the following academic year.

HOUSING INFORMATION

Housing information may be obtained by writing to Housing Office, Division of Student Services, Virginia Commonwealth University, 913 West Franklin Street, Richmond, Virginia 23284.

CURRICULUM

PREREQUISITE COURSES

Undergraduate Course: *Credits*
 BUS 320 Fundamentals of Management 3
 OR

Graduate Course:
 BUS 640 Management Theory and Practice .. 3

CORE CURRICULUM (REQUIRED COURSES)

First Phase
 PAD 601 Introduction to Public Administration 3
 PAD 607 Personnel Administration in
 Governmental Organizations 3
 PAD 609 Financial Management and Budgeting
 in Government 4

Second Phase
 BUS 641 Organizational Theory (Prerequisite:
 BUS 640) 3
 URP 671 Planning Methods I: Planning
 Information Systems and Research Design ... 4
 URP/PAD 652 Planning, Administration, and
 the Legal Process (Prerequisite: PAD 601) ... 3

Third Phase
 PAD 621 Organizational Behavior and
 Management in Government (Prerequisite:
 BUS 641) 3

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| PAD 623 Analytic and Evaluation Methods in Public Administration (Prerequisite: URP 671) | 3 |
| PAD 625 Public Policy Formulation and Implementation (Prerequisites: BUS 641, URP 671) | 3 |
| | — |
| | 28 |

Electives

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| PAD 627 Policy Analysis Research | 3 |
| PAD 650 Topics in Public Administration (Consent of instructor required) | 1-6 |
| PAD 660 Community Power Dynamics | 3 |
| PAD 662 Advanced Topics in Revenue and Taxation (Prerequisite: PAD 605 or consent of instructor) | 3 |
| PAD 664 Local Government Administration I: Organization and Staff Functions | 3 |
| PAD 666 Local Government Administration II: Line Functions | 3 |
| PAD 698 Directed Research in Public Administration (Consent of instructor required) | 1-6 |
| | 8-27 |

PRACTICUM

| | |
|---|---|
| PAD 699 Public Administration Practicum | 6 |
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Other courses offered by various departments at VCU may be selected to allow a student to pursue an area of interest. Students should select a total of 14 hours of elective courses.

GRADUATE COURSES IN PUBLIC ADMINISTRATION (PAD)

601 Introduction to Public Administration. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of department. Dynamics of governmental administration including administrative principles, decision making, communication, leadership, organizational models, and the political milieu of administration.

605 Economics of the Public Sector. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of department. Economic theory of the public sector with varied applications including cost benefit analysis, pricing, and financing of public services. Examines the nature of public goods and services ranging from client-oriented services to capital investment. Also examines the relationship between the public and private sectors in economic development.

607 Personnel Administration in Governmental Organizations. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of department. This course deals with the general concepts, principles, and techniques of personnel administration and employee relations as applied in governmental units and agencies.

609 Financial Management and Budgeting in Government. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of department. This course deals with general concepts, principles, and techniques of financial management as they are applied in governmental units and agencies. This course enables the student to understand the patterns of budgeting and accounting that are employed in government.

621 Organizational Behavior and Management in Government. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 641 and permission of department. This course deals with the general concepts, principles, and theories of management and organizational behavior as they relate to the administration of governmental units and agencies.

623 Analytical and Evaluation Methods in Public Administration. Semester course; 3 lecture hours. 3 credits. Prerequisites: URP 632 and permission of department. A survey of current applications of analytical and evaluative methods to government programs. The course includes the primary methods of evaluating social, financial, and physical programs. Attention is given to individual student program interest. This course relates directly to PAD 625 and PAD 631.

625 Public Policy Formulation and Implementation. Semester course; 3 lecture hours. 3 credits. Prerequisites: URP 671, and permission of department. A consideration of the general modes of decision making, determination of program goals, allocation of resources in terms of their contributions to goal attainment, selection of efficiency measures, and the formulation of public response strategies.

627 Policy Analysis Research. Semester course; 3 lecture hours. 3 credits. Prerequisite: PAD 623, 625. The conduct of policy research. Application of research phases, including: problem identification, evaluation goals, results planning, methodology utilization, interpretation of results and presentation of policy recommendations.

650 Topics in Public Administration. Semester course; 1, 2, or 3 lecture hours. Variable credit. Prerequisite: permission of instructor. May be repeated with different topics for a maximum of 9 credits. An in depth study of a selected topic in public administration. See schedule of classes for specific topics to be offered each semester.

652/URP 652 Planning, Administration, and the Legal Process. Semester course; 3 lecture hours. 3 credits. Prerequisites: PAD 601 and permission of department. Major emphases are administrative law, legislation, and substantive environmental law. Judicial review of administrative actions: notice, hearing, investigative requirements; the planner and administrator as expert witnesses; legislative language; drafting of legislation; legislative process; NEPA; air; water and water-lands; solid waste; herbicides and pesticides; noise; and critical man-made areas are investigated.

660 Community Power Dynamics. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of department. Examination of the location of power in the American community; operational concepts and general methodological approaches defined; empirical findings based on various methodological approaches; conclusions on community political systems and power.

662 Advanced Topics in Revenue and Taxation. Semester course; 3 lecture hours. 3 credits. Prerequisite: PAD 605 or permission of instructor. An advanced examination of governmental revenue and taxation policies, tax incidence, alternative funding techniques.

664 Local Government Administration I—Organization and Staff Functions. Semester course; 3 lecture hours; 3 credits. Prerequisites: PAD 607 and 609 or permission of the department. An intensive examination of local governmental staff functions as related to the organization of local governments and their proper management.

666 Local Government Administration II—Line Functions. Semester course; 3 lecture hours; 3 credits. Prerequisite: PAD 664 or permission of the department. An intensive survey of the major functional responsibilities of local government with a special emphasis on the organization, standards, operational imperatives, interrelationships with other functions, and special management problems of the major line activities of local governments, including small and rural jurisdictions.

698 Directed Research in Public Administration. Semester course. 1 to 6 credits. Prerequisite: permission of instructor. Independent research into public administration problems, issues, applications, and theories related to student's field of concentration.

699 Public Administration Practicum. 3 credits. Prerequisite: permission of instructor. A professional practicum in public service.

COURSES OFFERED BY THE SCHOOL OF BUSINESS

BUS 509 Governmental Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 204. Introduction to fund accounting, with emphasis on those concepts applicable to state and local governmental agencies.

BUS 607 Financial Accounting. Semester course; 3 lecture hours. 3 credits. Financial accounting standards and procedures. Income determination and financial statement preparation for businesses. Business combinations, consolidations, and other complex business organizations.

BUS 624 Elements of Quantitative Management. Semester course; 3 lecture hours. 3 credits. Selected quantitative techniques for solving commonly encountered

management problems. Applications to practical business systems are stressed. Not open to students who have completed BUS 301 or the equivalent.

BUS 632 Statistical Analysis. Semester course; 3 lecture hours. 3 credits. Topics covered are probability and statistical inference; probability distributions for discrete and continuous variables, tests, and decision procedures; estimation and the probability distribution of a parameter; the economics of decision theory; optimal information gathering; tests for association and goodness of fit; analysis of variance; linear regression; correlation; and discriminate analysis. Not open to students who have had two semesters of statistics.

BUS 633 Issues in Labor Relations. Semester course; 3 lecture hours. 3 credits. The conceptual framework of labor relations; the interconnection between labor-management relations and the socio-political environment.

BUS 634 Advanced Labor Relations. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 633. The negotiation and administration of collective bargaining contracts; the handling of grievances.

BUS 640 Management Theory and Practice. Semester course; 3 lecture hours. 3 credits. Theories, principles, and fundamentals applicable to contemporary management thought and productive activities. Not open to students who have completed BUS 320 or the equivalent.

BUS 641 Organization Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: PAD 601. Traditional and contemporary theories of organization and organizational behavior applied to a variety of organizations, both public and private; the influence of the organization on human behavior, and the management of change within organizations.

ECO 611 Concepts in Economics. Semester course; 3 lecture hours. 3 credits. Essential economic concepts including the price system, price determination in imperfectly competitive markets, employment theory, and monetary theory. Not open to students who have completed ECO 201-202 or equivalent.

ECO 616 Advanced Public Finance. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 306, or equivalent, or permission of the instructor. Theory and application of public finance, including taxation, expenditures, budgeting. Special attention to cost-benefit analysis and to intergovernmental relations in a federal system.

Department of Rehabilitation Counseling

The rehabilitation counseling program at Virginia Commonwealth University was established in 1955 to provide graduate education in rehabilitation counseling.

This program prepares prospective re-

habilitation counselors for employment in state and federal vocational rehabilitation programs and public and private rehabilitation agencies. Graduates work in rehabilitation units in mental hospitals, correctional institutions, public schools, rehabilitation centers, sheltered workshops, adjustment centers, social service agencies, and other organizations serving persons who are mentally, emotionally, socially, or physically handicapped. It also provides advanced training for persons presently employed in agencies and facilities offering services to handicapped individuals.

Emphasis is placed upon professional education for developing the skills and knowledge necessary for effective rehabilitation counseling of handicapped persons. The variety of activities performed by rehabilitation counselors necessitates a program highly diversified in character. In addition to the development of a broad understanding of human behavior, techniques of individual and group counseling, inter-professional relations, vocational appraisal and adjustment, and use of community resources in facilitating rehabilitation of mentally, emotionally, socially, and physically handicapped persons are stressed.

INSTITUTES AND WORKSHOPS

The Department of Rehabilitation Counseling conducts institutes and workshops as part of an on-going in-service training program for employed personnel. The department will continue to conduct such institutes and workshops as long as there is a demonstrated need and funds are available.

AWARDS

The Wade O. Stalnaker Award For Outstanding Achievement is presented annually to a full-time graduate student in the Department of Rehabilitation Counseling. Initiated by the graduating class of 1963, this award was named in honor of the founder of the department, Dr. Wade O. Stalnaker.

The recipient is selected on the basis of meritorious academic scholarship, dedication to the philosophy and concepts of rehabilitation, and extracurricular accomplishments in community services.

NATIONAL REHABILITATION COUNSELING ASSOCIATION (VCU Student Chapter)

Officers 1976-77

President James A. Rothrock
Vice-President Carl H. Collier
Secretary Nancy L. Costello
Treasurer Sandra L. Overstreet

Board Members

Arthur N. Sanderson
Pamela Stewart
Catherine R. Collier

WORK-STUDY PROGRAM OF PROFESSIONAL EDUCATION IN REHABILITATION COUNSELING

The purpose of this program is to maintain a comprehensive, coordinated, and fully professional course of study in rehabilitation counseling that is offered on a continuous part-time basis. Classes meet on alternate weekends, both Fridays and Saturdays, and are offered through the Center for Continuing Education of Virginia Commonwealth University. Friday night classes meet from 7 to 9:40 p.m., Saturday classes meet from 8 to 10:40 a.m. and from 11 a.m. to 1:40 p.m.

Students may enroll for one or more courses, depending on their needs. Up to nine hours of credit can be earned by qualified students upon satisfactory completion of a full academic year in this program. The work-study academic year runs from September through May.

The specific objective of this training program is to substantially increase the effectiveness of the rehabilitation counseling profession by making a high-quality training program available to presently employed professional workers whose skills and abilities need up-grading and who desire to academically prepare themselves for a career in rehabilitation counseling but are unable to do so on a full-time basis.

This program is not intended to be a supplementary or introductory program. It is designed to be a complete, comprehensive, and sequential program of graduate training leading to a master's degree in approximately four years of qualified full-time students. These students will be unable

to meet the graduate residence requirements by completing 12 hours in a calendar year; therefore, their residence requirement shall consist of the completion of nine graduate hours in two academic semesters.

The entire core curriculum in rehabilitation counseling will be included in the offerings over a four-year span of time, with certain supplementary classes that may be necessary in special instances.

REGIONAL REHABILITATION CONTINUING EDUCATION PROGRAM

The post-induction training program at the Woodrow Wilson Rehabilitation Center in Fishersville, Virginia, is a cooperative program between Virginia Commonwealth University, the Virginia Department of Vocational Rehabilitation, the Virginia Commission for the Visually Handicapped, the Woodrow Wilson Rehabilitation Center, and the state rehabilitation agencies in Virginia, West Virginia, Pennsylvania, Delaware, Maryland, and the District of Columbia.

Designed primarily to provide basic orientation training in rehabilitation counseling to all newly employed rehabilitation counselors in the region, the course includes five weeks of intensive academic training followed by eight weeks of supervised clinical field experience. During each year, the program provides training for approximately 135 newly employed counselors.

Although the regional training program courses carry residence credit, such credit is not automatic. Students who have completed the courses in the Regional Rehabilitation Continuing Education Program may use these credits in one of two ways:

1. These courses may be counted toward the Master of Science degree if they were completed with graduate credit and the student's application for the graduate school is accepted by the Graduate Committee within a reasonable period of time after completion.

2. These courses may be used as qualifying credits for admission to the graduate program if taken on the undergraduate level and the student earns a grade of "B" or better.

For additional information and applica-

tion forms write to Director, Virginia Commonwealth University Regional Rehabilitation Continuing Education Program, Woodrow Wilson Rehabilitation Center, Fishersville, Virginia 22939.

ALCOHOL EDUCATION PROGRAM (AEP)

Through a cooperative agreement with the Virginia Department of Mental Health and Mental Retardation, Substance Abuse Division, the Department of Rehabilitation Counseling has established a comprehensive Alcohol Education Program. The objectives are to increase the professional competencies and skills of alcoholism professionals; develop and train professionals in alcohol rehabilitation techniques; increase the scope of knowledge about alcoholism among medical, psychological, and social practitioners; and conduct alcoholism rehabilitation research.

The AEP involves a concentration package based on the Littlejohn competencies. It involves 220 didactic contact hours, 180 hours of practicum, and 200 clock hours of experiential group involvement which may lead to certification as an alcoholism counselor.

These goals will be met through five departmental programs:

1. *Workshop Series*—The first of these is a series of workshops designed to train alcoholism professionals including physicians, nurses, administrators, therapists, and counselors. The workshops are conducted in a progression leading to certification in alcoholism for the particular professional who will have the option of either graduate, undergraduate, or continuing education credit. The workshop's focus varies, depending upon the goals of the individual participants. For the person earning CEU credits, the workshop is designed for experiencing new learning. The participant working toward a B.S. degree has an opportunity for further investigation and organization of what has been experienced in the workshop itself. Graduate credits allow the participant to use this workshop experience to build a theory or to apply knowledge gained to a particular service situation.

2. Academic Undergraduate Program—A second departmental program includes a group of courses in the full-time academic setting, which in combination with core rehabilitation services courses and electives can be applied to a B.S. degree in rehabilitation services. Also included in this program is a basic introductory course in alcoholism open as an elective to all disciplines.

3. Academic Graduate Program—On the graduate level, courses are also offered in the full-time and work-study programs which are applicable towards a Master of Science degree in rehabilitation counseling with a concentration in alcoholism studies. Also, included in this program is a basic introductory alcoholism course open to all disciplines as an elective.

4. Traveling Mini-Models—Another component will be short-term workshops for professionals such as registered nurses and probation and parole officers who deal with the fundamentals of alcoholism, differential diagnosis, and group treatment of alcoholics. These seminars are divided into three sections, six to eight hours each, and provide a basic overview of the progressive disease of alcoholism.

5. Saturday Seminars—In conjunction with the Virginia Association of Alcoholism Counselors, speakers attuned to the most recent developments in alcoholism will present four six hour programs, each of which can be taken for .5 CEU credits, on four selected Saturdays throughout the year.

UNDERGRADUATE PROGRAM IN REHABILITATION SERVICES

The Department of Rehabilitation Counseling also offers a Bachelor of Science degree in rehabilitation services. Although opportunities for specialization exist, the emphasis of the curriculum is toward a broad interdisciplinary education appropriate for positions involved with effective human resource development and planning. Possible employment activities could include job development and placement, intake interviewing, para-professional counseling, vocational testing, work evaluation and adjustment, client advocate public relations work, coordination, case manage-

ment, research projects, human resource planning, program development, program operation, etc.

MANPOWER STAFF DEVELOPMENT PROGRAM

As part of a developing professional support system for persons currently working in Comprehensive Employment and Training Act (CETA) programs or preparing for other employment related activities, the Department of Rehabilitation Counseling, working under a grant from the Governor's Manpower Services Council, is carrying out a staff development program for CETA staff throughout Virginia. Decentralized to northern, southeastern, southwestern, and central Virginia, the program is designed to improve behavioral, technical, and management skills of presently employed CETA personnel.

SUPERVISED CLINICAL PRACTICE

Supervised clinical practice in a rehabilitation agency setting is required of all students who have had no previous rehabilitation agency experience. Supervised clinical practice provides an opportunity for students to develop techniques and skills in connection with the total rehabilitation process. It gives them an opportunity for application of theory in the practice of rehabilitation counseling and case management in a rehabilitation setting. Provided under the direction of the faculty and the immediate supervision of qualified personnel in approved rehabilitation agencies or facilities, supervised clinical practice constitutes full-time study for one semester.

Students who have acceptable counseling experience in rehabilitation must either enroll for supervised clinical practice or participate in a special project approved by the chairman.

Voluntary activities or introductory field experience may not be substituted for, nor counted toward, supervised clinical practice.

Numerous agencies and organizations in Virginia and other states have cooperated with the Department of Rehabilitation Counseling to provide students with oppor-

tunities for supervised clinical practice. The primary sources of training are state-federal vocational rehabilitation agencies, Veteran's Administration, Employment Security Commission, social service departments, correctional institutions, hospitals, clinics, sheltered workshops, and evaluation centers. The disability areas have included physical (e.g. spinal cord injury, visual impairments, orthopedic disabilities, speech and hearing disorders, etc.), psychiatric, mental retardation, alcoholism, drug addiction, public offenders, disadvantaged, etc. The student's advisor will be able to provide the names, addresses, and telephone numbers of agency supervisors who have worked with students in the past. Information regarding a variety of community resource directories is also available.

REQUIREMENTS AND PROCEDURES FOR ADMISSION

1. The applicant is required to make application on approved application forms. *No graduate credit will be allowed for any work toward a graduate degree until the application is accepted.*

2. Two copies of the official transcript from an accredited institution showing that a bachelor's degree was awarded must be submitted to the Admissions Committee. In addition, official transcripts of all work undertaken beyond the bachelor's degree must be submitted. Students who have graduated from non-accredited institutions may have their application presented to the Admissions Committee when these applications include the results of the Graduate Record Examination.

3. All applicants must have achieved an acceptable undergraduate grade point average or have received a qualifying score, as determined by the admissions committee, on the Standard Aptitude Test of the Graduate Record Examination.³

4. The applicant must submit a letter in

his or her own handwriting stating reasons for wanting to enter into graduate study in rehabilitation counseling at Virginia Commonwealth University.

5. A personal interview with the chairman is required. If this is impractical, the chairman will designate an alternate for a pre-acceptance interview.

The Department of Rehabilitation Counseling evaluates the applicant's fitness for a career in rehabilitation counseling. Careful attention is given to previous work experience, academic background, scholarship, and emotional maturity. The application is then reviewed and passed upon by the Admissions Committee.

6. The deadline for application for the fall semester is August 1; the deadline for the spring semester is December 1.

7. Application forms may be obtained by writing to the Chairman, Department of Rehabilitation Counseling, School of Community Services, Virginia Commonwealth University, 812 West Franklin Street, Richmond, Virginia 23284.

8. All application materials should be returned to the department chairman at the above address.

CANDIDACY

Admission to graduate study does not constitute candidacy for a degree. Rather, a student who has been admitted to graduate study is advanced to degree candidacy upon the recommendation of the department in which the degree is sought. Advancement to degree candidacy requires that the candidate must have completed between nine and 15 semester hours of graduate study with a minimum grade point average of 3.0; demonstrated clearly the aptitude and ability to pursue graduate work, including independent study; exhibited a commitment to rehabilitation counseling as a profession; demonstrated promise for a successful career in the field selected in terms of temperament and personality. Admission to degree candidacy is not an automatic process, but rather the application for candidacy is approved by the department only after careful evaluation of all pertinent factors.

³ An applicant may elect to prove his ability to complete graduate studies and gain admittance by completing nine hours of undergraduate courses, earning a 3.0 ("B") average in courses specified by the chairman of the Department of Rehabilitation Counseling.

TRANSFER CREDIT

At the time of elevation to candidacy for the degree, a maximum of six semester hours of graduate credit may be transferred toward a Master of Science degree in the Department of Rehabilitation Counseling.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN REHABILITATION COUNSELING

1. A student must complete a minimum of 39 graduate semester credits, approved by the chairman, exclusive of any credit for supervised clinical practice for rehabilitation counselors or required research.

2. Qualified applicants who are employed and meet all entrance requirements may complete the requirements for the degree by studying as full- or part-time students during the regular academic year; either in the day school, Evening College, work-study program, or during the summer sessions.

3. Application to degree candidacy may be made after the student has demonstrated his ability to pursue work of graduate character by satisfactorily completing a semester of residence credits (nine credits minimum; 15 credits maximum) and satisfactorily completing an oral or written examination administered by the chairman. Admission to degree candidacy is given upon certification of acceptable records of achievements by the student's advisor.

4. A student without acceptable experience in the field of rehabilitation must complete supervised clinical practice for rehabilitation counselors under the direction of the faculty and the immediate supervision of a qualified person in an approved agency or facility.

5. All students must pass a comprehensive examination. It is administered by the chairman after the student has completed a minimum of 30 graduate credits.

6. Students who have had successful employment in a rehabilitation agency or facility or other successful work experience involving individual case study and adjustment of handicapped persons may, upon approval of the faculty, meet the requirements for supervised clinical practice by successful completion of an additional three

graduate semester credits in a research project.

7. Degree applicants shall have received an overall grade point average of 3.0 ("B").

8. A student who receives a grade of "C" or below on more than six credit hours of work will be automatically dropped from a program. (Exceptions may be made to this policy by petitioning and receiving written permission from the School of Community Services Graduate Council.) No graduate credit shall be given for any work for which a grade less than "C" is given.

9. No degree-seeking student may be admitted in more than one graduate program in the School of Community Services without petitioning and receiving written permission from the Graduate Council of the School of Community Services.

10. A student suspended for academic reasons from any graduate program within the School of Community Services may not apply for readmission to the program from which she/he was suspended or for admission to any other graduate program within the school until two academic years have elapsed from the date of suspension. A student who applies for admission or readmission to any graduate program within the school and is denied admission may appeal by petitioning to the School of Community Services Graduate Council for a reconsideration of their application.

11. Full-time graduate status shall consist of a minimum of nine and a maximum of 16 credits per semester. A maximum of 15 semester credits may be earned in summer sessions each summer. The supervised clinical practice experience constitutes full-time graduate status also.

12. Students must continually show acceptable professional behavior to be retained in the graduate program.

13. All requirements for the degree must be completed within seven years from the date of admission to graduate study. This time limitation applies to both full- and part-time students.

SPECIALIZATION AREAS

The Department of Rehabilitation Counseling through its courses and those in other

departments offers specialization areas to all graduate students within the department. These areas include: 1) mental health rehabilitation; 2) correctional rehabilitation (public offender rehabilitation); 3) vocational evaluation and work adjustment; 4) services to the physically handicapped; 5) community resources utilization and development; 6) counseling (individual and group); 7) alcoholism rehabilitation; and 8) manpower planning.

Courses provide considerable flexibility for students who wish to emphasize special concerns. Internships are provided in mental health, correctional settings, or other settings (such as vocational evaluation and work adjustment units in various rehabilitation facilities). Students may emphasize working with physically handicapped persons and the development of community resources through special courses such as rehabilitation case studies, occupational information, job analysis and placement, work evaluation techniques, work adjustment techniques, and internship. A course in rehabilitation research is also offered and is usually directed toward a student's area of special interest. Faculty members encourage students to select term papers and research project topics to emphasize areas in which they have the highest level of interest.

All students should note, however, that it is not necessary to specialize or choose a sequence area. This is available only for students who wish to become highly specialized in a specific area of rehabilitation.

OUTLINE OF COURSES

*Denotes Core Content Courses.

Note: All courses below 500 level are undergraduate credit only.

| | <i>Credits</i> |
|---|----------------|
| RES 421 (RCO 521) Overview of Alcoholism | 3 |
| RES 422 (RCO 522) Recovery of Alcoholism | 3 |
| RES 423 (RCO 523) Principles, Methods, and Techniques in Treatment of the Alcoholic | 3 |
| RES 425 (525) Introduction to Rehabilitation | 3 |
| RES 433 (533) Directed Readings in Rehabilitation | 3-6 |
| RES 439 (RCO 539) Current Problems in Rehabilitation | 3-6 |

| | |
|---|-----|
| RES 440 (RCO 540) Directed Readings in Alcoholism | 3 |
| RES 451 (RCO 551) Treatment of the Alcoholic with Significant Others | 3 |
| RES 452 (RCO 552) Crisis Intervention with the Alcoholic | 3 |
| RES 459 (RCO 559) A Survey of Rehabilitation of Blind and Visually Impaired Individuals | 3 |
| RES 461 (RCO 561) Work Evaluation Techniques for Rehabilitation | 3 |
| RES 462 (RCO 562) Work Adjustment Techniques for Rehabilitation | 3 |
| RCO 607 Community Resources | 3 |
| *RCO 611 Principles, Methods, and Techniques in Rehabilitation Counseling | 3 |
| *RCO 612 Principles, Methods, and Techniques in Rehabilitation | 3 |
| *RCO 623 Occupational Information, Job Analysis, and Placement | 3 |
| *RCO 625 Measurement and Evaluation in Rehabilitation | 3 |
| *RCO 633 Rehabilitation Case Studies | 3 |
| RCO 637 Introduction to Field Experience for Rehabilitation Counselors | 3 |
| RCO 638 Practicum in Job Placement in Rehabilitation Counseling | 3 |
| *RCO 640-641 Medical Information for Rehabilitation Counselors | 3-6 |

COURSE DESCRIPTIONS

*Denotes Core Content Courses.

Note: All 300 and 400 level courses are rehabilitation services (RES). All 500, 600, and 700 level courses are rehabilitation counseling (RCO).

RES 420 (RCO 520) Introduction to Vocational Rehabilitation. 6 credits. This course provides an intensive five-week exposure to the broad field of vocational rehabilitation. Conducted on the grounds of the Woodrow Wilson Rehabilitation Center, classroom, seminar, and laboratory experiences are employed relative to the full range of physical and mental disabilities. Interaction with the various professional members of the vocational rehabilitation team and with individuals with various disabling conditions is arranged. The rehabilitation counselor's role and function as a member of the team is stressed. Enrollment is limited to eligible employees of public and private vocational rehabilitation agencies and facilities.

RES 421 (RCO 521) Overview of Alcoholism. 3 credits. Overview of alcoholism as a progressive, family disease which can be arrested by a multi-disciplinary, rehabilitative approach; consideration of the etiology of alcoholism from physiological, psychological, and socio-cultural viewpoints as well as methods of intervention at various stages; description of the highlights of the continuum of care available in the recovery process.

RES 422 (RCO 522) Recovery of Alcoholism. 3 credits. Exploration of the denial system present in U. S.

society which complicates the early intervention and treatment of a progressive, family disease; presentation of new hope for the alcoholic and his family in the attempts being made in certain areas of society to begin the recovery process early; description of approaches proving to be helpful in facilitating the alcoholism professions in guiding the alcoholic and his family from isolation to involvement and integration.

RES 423 (RCO 523) Principles, Methods, and Techniques in Treatment of the Alcoholic. 3 credits. Prerequisites: RES 421 (RCO 521) and 422 (522) or permission of instructor. Integration of principles, methods, and techniques utilized in the recovery process of alcoholism, especially in group work; exploration of various methods and theories as applied to treatment of the alcoholic, with provision for group involvement, co-facilitation, and practice counseling sessions.

RES 425 (RCO 525) Introduction to Rehabilitation. 3 credits. This course is designed to give the student a comprehensive overview of the rehabilitation process. It emphasizes the historical, philosophical, social, and legal aspects of rehabilitation. Special attention is devoted to the professional aspects of rehabilitation counseling. The need for rehabilitation counseling and the skills and functions of the rehabilitation counselor are also covered.

RES 433 (RCO 533) Directed Readings in Rehabilitation. 3-6 credits. Topical course. Provides an opportunity for students to intensify understanding in one or more areas of rehabilitation through directed readings under supervision of a faculty member. The study experience must be synthesized in a paper and a written or oral examination before a faculty committee.

RES 439 (RCO 539) Current Problems in Rehabilitation. 3-6 credits. Topical seminar. A study of developments and implications resulting from rehabilitation research and demonstration activities. Agency problems related to staff improvement and expansion of rehabilitation services and facilities will also be considered as well as reviews of specific disability problems and trends in rehabilitation.

RES 440 (RCO 540) Directed Readings in Alcoholism. 3 credits. Prerequisite: permission of instructor. Opportunity to investigate and pursue in depth a particular concept encountered in the alcoholism concentration courses or to study in detail a particular problem in alcoholism while working in the field; under the direction of the alcoholism personnel in the department.

RES 451 (RCO 551) Treatment of the Alcoholic with Significant Others. 3 credits. Prerequisites: RES 421 (RCO 521), 422 (522), and 423 (523), or permission of instructor. Stress on the importance of the family disease concept of alcoholism utilized throughout the concentration series; demonstrations and role-playing of situations involving the alcoholic and significant others provided; discussions of multiple impact family

therapy and other approaches developed relevant to the alcoholic.

RES 452 (RCO 552) Crisis Intervention with the Alcoholic. 3 credits. Prerequisites: RES 421 (RCO 521), 422 (522), and 423 (523), or permission of instructor. Focus on the application of concepts discussed in theory in the recovery process course; sharing of difficulties and successes with crisis intervention by individuals already in the field; provision of new and more refined techniques under the direction of experts demonstrating their applicability.

RES 459 (RCO 559) A Survey of Rehabilitation of Blind and Visually Impaired Individuals. 3 credits. The purpose of this course is to acquaint the student, rehabilitation counselors, and other personnel working in related areas with problems encountered in the rehabilitation of blind and partially sighted persons.

RES 461 (RCO 561) Work Evaluation Techniques for Rehabilitation. 3 credits. An in depth examination of the methods and techniques utilized in determining employment potential and the role of the work evaluator in the rehabilitation process. Specific procedures and approaches are analyzed including the TOWER System, Singer-Grafex System, and other methods currently utilized in rehabilitation services.

RES 462 (RCO 562) Work Adjustment Techniques for Rehabilitation. 3 credits. An in depth analysis of methods utilized in overcoming maladaptive worker behavior in rehabilitation services including group process, sheltered workshops, and non-verbal techniques. The role and function of adjustment personnel in the rehabilitation process. Current problems and research in methods of adjustment.

RES 466 (RCO 566) Field Work Practicum. 3 credits. Designed to complement and follow RES 420, this eight-week on-the-job experience is jointly supervised by a university faculty member and by the student's training supervisor in the public or private rehabilitation agency or facility where the student is employed. A choice of exercises is offered with required written reports of each exercise selected. These exercises are programmed to encourage the further integration of concepts, practices, and skills learned in RES 420 with actual agency policy and service delivery. Enrollment is limited to eligible employees of public and private vocational rehabilitation agencies and facilities who have completed RES 420.

RCO 607 Community Resources. 3 credits. This course emphasizes the means by which the community uses its resources and services to meet the needs of handicapped persons. It provides for study and discussion of the nature and organization of community resources as they relate to rehabilitation, availability of community resources through public and private agencies and facilities including employment potentials, problems in the development and utilization of community resources, observational visits to key agencies, and lectures by representatives of various rehabilitation programs.

***RCO 611 Principles, Methods, and Techniques in Rehabilitation Counseling.** 3 credits. This course is designed to acquaint students with principles, methods, and techniques utilized in rehabilitation counseling. Counseling, as applied to various personalities and under varying situations, is discussed. Laboratory practice in counseling is provided.

***RCO 612 Principles, Methods, and Techniques in Rehabilitation.** 3 credits. This course is designed to acquaint students with principles, methods, and techniques in rehabilitation as they are applied throughout the rehabilitation process, especially in group work. It includes techniques and methods of case findings; medical, psycho-social, and vocational evaluation; the rehabilitation diagnosis; the determination of financial need; provision of case services; placement, follow-up, and case recording.

***RCO 623 Occupational Information, Job Analysis, and Placement.** 3 credits. Provides an orientation to occupations and occupational information for rehabilitation counselors, study of the literature on occupations and occupational information, writing of job analyses, visits to selected business and industrial establishments employing handicapped persons, and job analyses related to the employment of handicapped individuals.

***RCO 625 Measurement and Evaluation in Rehabilitation.** 3 credits. Consideration will be given to the selection of tests for rehabilitation clients; the determination of need for testing, administering, and interpreting tests; adaptation of tests to special disability groups; suggestions for the integration of test results with the overall rehabilitation diagnosis; the establishment of local norms for rehabilitation clients; the work-evaluation report; and interpretation of test results to client. Tests of achievement, aptitude, intelligence, interest, and personality will be critically examined. Laboratory fee \$4.

***RCO 633 Rehabilitation Case Studies.** 3 credits. This course provides for critical analyses of representative rehabilitation cases. Rehabilitation case records are utilized as a basis for presenting an understanding of the handicapped client and his problems; the rehabilitation casework processes and diagnoses; and the provision of services.

RCO 635 Theory and Practice in Prevention of Alcoholism. 3 credits. Prerequisite: permission of instructor. Utilization of human service agencies and community at large to affect attitude and behavior change concerning the use and abuse of alcohol; development of skills in educating, coordinating, motivating, planning, and implementing in prevention area; project in prevention.

RCO 637 Introduction to Field Experience for Rehabilitation Counselors. 3 credits. This course provides for concurrent field experience. It is designed for students who have not had any training or experience in interviewing and counseling in rehabilitation settings.

***RCO 638 Practicum in Job Placement in Rehabilitation Counseling.** 3 credits. This course provides for actual experience in rehabilitation counselor activities, with emphasis on placement techniques—including itinerary planning, plant surveys, job analysis, placement, and follow-up.

***RCO 640-641 Medical Information for Rehabilitation Counselors.** 3-6 credits. This course provides medical information for rehabilitation counselors and introduces students to medical terminology. It provides knowledge of the etiology, prognosis, methods of treatment, effects of disabling conditions, and implications for the rehabilitation counselor. Physician-counselor relationships are emphasized as is the interpretation of medical reports. (This course is offered in cooperation with the Department of Rehabilitation Medicine, Medical College of Virginia of Virginia Commonwealth University.)

***RCO 642 Psychiatric Information for Rehabilitation Counselors.** 3 credits. This course provides psychiatric information for rehabilitation counselors so they may have an understanding of disabling psychiatric conditions as well as the emotional aspects of physical disabilities. It deals with impairments of a mental origin including mental retardation, behavioral disorders, neuroses and psychoses—both organic and functional, as well as convulsive disorders. Emphasis is placed on physical, emotional, and social factors that contribute to the various mental illnesses.

***RCO 654 Seminar in Special Problems in Rehabilitating Handicapped Persons.** 3-6 credits. Topical seminar. This course is presented in a series of units. Each unit places emphasis on a special disability group such as paraplegic, deaf and hard of hearing, alcoholic, epileptic, cerebral palsied, cardiac, blind, mentally retarded, mentally ill, drug addict, aged, etc. The incidence and nature of disabilities, psychological factors, vocational problems, and specialized treatment and placement facilities required and techniques of team approach; use of rehabilitation centers and specialized facilities and use of consultants.

***RCO 655-656 Seminar in Rehabilitation.** 3-6 credits. Current trends, problems, and developments in rehabilitation are discussed. Students pursue a special interest area such as cultural deprivation, disability determination, work adjustment, work evaluation, etc., and share information and experience mutually with the group. Lectures, reports, and group discussions are utilized.

RCO 657-658 Seminar in Audiology in Rehabilitation. 3 credits. This course provides an orientation to audiology as it applies to the rehabilitation process. It includes history of the education of the deaf and hard of hearing, methods of instruction, diagnostic testing and evaluation, and special lectures pertaining to rehabilitation of the acoustically disabled and problems confronted by the counselor or teacher in providing adequate services to this disability group.

RCO 664 Supervised Clinical Practice in Alcoholism. Block assignment; 8 credits. Prerequisites: RCO 521, 522, and 523. Practical learning by observing and doing the 22 tasks of the alcoholism counselor as outlined in Littlejohn Report; general direction and supervision by alcoholism personnel within department and direct supervision by a qualified person within the facility to discuss counselor/client problems.

***RCO 666-667 Supervised Clinical Practice.** Block assignments; 8 credits. Practical learning by observing and doing. It gives the trainee many opportunities for the application of theory in the practice of rehabilitation counseling and case management and/or work evaluation and work adjustment in a rehabilitation setting. It is provided under the general direction and supervision of the faculty and the direct supervision of a qualified person within the agency or facility. Students meet regularly with the clinical practice supervisor within the agency or facility to discuss clients' problems and possible solutions.

RCO 672 Research in Rehabilitation. 3-6 credits. The student undertakes a research project with the assistance of a faculty member. He is required to write a paper and pass an examination in order to receive credit.

RCO 681-689 Institutes and Workshops. Orientation institutes and other short-term training programs are offered for rehabilitation counselors newly recruited to the rehabilitation field and for the further professional development of those already employed. Content will vary according to the aims of the institutes or workshops. Length of time and number of credits are announced prior to each institute or workshop.

RCO 692 Alcohol and Human Behaviors. 3 credits. Prerequisites: RCO 521, 522, 523, and 664, or permission of instructor. Understanding the significance of behavior as a tool in diagnosing, treating, and/or referring the alcoholic; appreciation of particular cues to observe the predominant behavior associated with living problems and reflected by the alcohol abuser.

RCO 693 Delivery Services to the Alcoholic. 3 credits. Prerequisites: RCO 521, 522, 523, and 654, or permission of instructor. Exposure to the 22 professional tasks of the alcoholism counselor through discussion centered around examples brought into class from clinical experience; understanding how these tasks dealing with the alcoholic and his family apply to different settings; a summary of the other five parts in the alcoholism concentration culminating in a philosophy of the alcoholism counselor.

RCO 701-702 Thesis. 1-3 credits. The master's thesis consists of either a carefully planned and executed research undertaking or a detailed and comprehensive report on a supervised clinical practice experience. Generally, a thesis of the latter type in the latter form will carry one credit and will be taken in conjunction with RCO 666-667.

APPROVED ELECTIVES

AJPS 455 (555) Community-Based Correctional Programs. 3 credits. A comprehensive overview of community correctional systems is offered. Probation and parole are covered in detail.

EDU 551 Survey of Special Education. 3 credits. For majors and nonmajors. An overview of the field of special education; identifying exceptional children, programs, facilities, literature, services, and professional workers. A first course for special education majors.

EDU 556 Characteristics of the Mentally Retarded. 3 credits. Nature and needs of the mentally retarded with emphasis upon the degrees of retardation, causes, and concomitant problems. Psychological bases for a suitable curriculum are also explored.

PSY 527 Psychology of the Handicapped. 3 credits. A survey of handicapped persons, with particular emphasis on the mentally retarded, crippled, cerebral palsied, and hard of hearing; extent and nature of the handicap; psychological and emotional aspects; educational treatment and rehabilitation.

PSY 550 Psychology of the Mentally Retarded. 3 credits. A detailed psychological analysis is undertaken of problems involved in working with mentally retarded, including those related to the criteria of mental deficiency, classification and diagnosis, psychological testing, causal factors, training and education, interpreting mental deficiency to parents, institutionalization, and professional training for workers in the area.

PSY 615 Aphasia. 3 credits. The history of aphasia traced from its beginning in the 18th century to the classical concepts held by the French school (Bouillaud, Broca) in the early 19th century, the revision made by the British school (J. Hughlings, Jackson, Henry Head) and finally, the present state of knowledge reached by contemporary authors (K. Goldstein); various types of aphasia and their correlation with brain lesions; laws governing genesis and restitution of speech disturbances in brain injury persons; theoretical discussion and practical presentation of cases.

SOC 539 Aging in our Society. 3 credits. Personal, social, and economic needs of our senior citizens. Adjustments to the process of aging which will be of interest to persons in any age group.

Department of Urban and Regional Planning

THE SETTING

The location of the university in Richmond is advantageous for the graduate program in planning. Richmond is the

capital of Virginia and thus hosts the state governmental agencies concerned with planning, transportation, recreation, health, etc. Furthermore, there are many local governmental agencies in the metropolitan areas of Richmond (population 575,000) and Petersburg to the south (population 125,000). The department works with these agencies both in class projects and in the internship program. A number of officials in these agencies serve as adjunct professors and guest lecturers.

Since Richmond is just two hours south of Washington, D.C., the agencies of the federal government, the Library of Congress, etc., are readily accessible.

PROGRAM

The graduate program in urban and regional planning seeks to provide rigorous professional grounding in the theory and methodologies of planning through a curriculum that balances classroom and field experience.

The Master in Urban and Regional Planning (MURP) is a two-year degree program requiring 48 semester hours of classwork and six hours of internship. A core of required courses, most of which are taken in the first year, includes:

- Introduction to Urban and Regional Planning

- Problems in Urban and Regional Planning
- Planning Methods I: Planning Information Systems and Research Design

- Planning Methods II: Plan Formulation and Implementation Strategies

- Urbanization and Land Use Policy

- Principles of Urban Design

- Legal and Legislative Foundations of Planning

- Techniques of Mapping and Cartographic Analysis

- Planning Studio

Students may choose a broad program in comprehensive planning, or may elect one of the several specialized areas of study. These areas include:

- Land Use and Environmental Planning

- Urban and Regional Economic Development

- Community Services Planning

- Health Planning.

The emphasis in land use and environmental planning is on problems at the interface between social systems and the physical environment. It is expected that students specializing in this sequence will graduate with knowledge and skills necessary to prepare land use plans, taking into account the social and economic issues of community development as well as the constraints imposed by the physical environment. This specialization provides exposure to at least one functional aspect of physical planning, such as housing, physical environment, recreation, or transportation.

The specialization in urban and regional economic development is oriented toward students interested in careers ranging from regional and community economic development and human resources planning to fiscal analysis and research planning for metropolitan planning agencies. The focus is on urban and regional economic theory, economic analysis, and formulation of strategies and programs for local economic development.

Students desiring to serve as human services planners at the community level may specialize in community services planning. This specialization combines planning techniques, law, and politics with studies in community needs and delivery systems in such areas as manpower training, health, and corrections.

The specialization in health planning has been developed in cooperation with the Department of Hospital and Health Administration in the School of Allied Health Professions. Students may earn the Master in Urban and Regional Planning degree with intensive training in health care resources and planning techniques as preparation for careers with health planning agencies.

PART-TIME STUDENTS

Because virtually all courses may be taken in the evening, the program accommodates both full- and part-time students. Students may also take advantage of courses offered in the summer. Thus, it is possible for a part-time student taking six credit hours per semester to finish the master's degree in four years or less.

SPECIAL STUDENTS

Special students—those not formally admitted to the program—may enroll in courses numbered in the “500’s” without permission. Certain other courses may be open to special students with the consent of the instructor. Upon acceptance to the program, up to 15 hours of graduate credits accrued with a grade of “B” as a special student at Virginia Commonwealth University may be applied to the degree upon recommendation of the Admissions Committee.

INTERNSHIP AND PLACEMENT

The internship is designed to give the student practical experience in planning related activities in an institutional context. Normally, the internship is taken during the summer between the first and second year, although other options are available. (Students who are already employed in planning positions may use that experience to satisfy the internship requirement.) Permission is necessary from the chairman before the internship is begun. A short paper summarizing the experience should be submitted after the internship has been completed.

There are many opportunities for internship positions, as well as part- and full-time jobs in planning at all levels of government within the Richmond area. Agencies in which students have found employment include the planning departments of the city of Richmond; the Richmond Regional Planning District Commission; the Crater Planning District Commission; and the counties of Henrico, Chesterfield, Goochland, and Prince George. Students have also been employed in state agencies such as the Division of Planning and Community Affairs, the Water Control Board, and the Council on the Environment.

RESEARCH AND RELATED ACTIVITIES

The faculty conducts research on a variety of topics spanning problems at the state and local level within Virginia as well as at both the national and international levels.

Current research of faculty concerning state problems includes an analysis of the *demand for recreational facilities* in the city

of Richmond, a land use model of the Richmond metropolitan area, a political study of the Richmond annexation case, and a county-level coastal zone management and regional economic development project. Research of national and international scope includes an analysis of the causes and effects of metropolitan segregation in the U.S., a study of consumer bankruptcy, and studies of the migration of foreign workers in Europe, industrial locations in Mexico and Brazil, and urban labor absorption in Brazil. Also underway is a project on alternative futures.

For the immediate future, a Center for Public Affairs is being established within the School of Community Services to undertake research and consulting projects with state and local governments. The center will increase the involvement of faculty and students in planning related activities in the local area.

CURRICULUM

| I. First Year, First Semester | <i>Credits</i> |
|--|----------------|
| URP 531 Introduction to Urban and Regional Planning | 3 |
| URP 651 Legal and Legislative Foundations of Planning | 3 |
| URP 671 Planning Methods I Planning Information Systems and Research Design . | 4 |
| URP 514 Techniques of Mapping and Cartographic Analysis | 2 |
| II. First Year, Second Semester | |
| URP 532 Problems in Urban and Regional Planning | 3 |
| URP 633 Urbanization and Land Use Policy .. | 3 |
| URP 661 Principles of Urban Design ⁴ | 3 |
| URP 672 Planning Methods II Plan Formulation and Implementation Strategies .. | 4 |
| Electives | 2-3 |
| III. Internship | |
| URP 701 (Normally taken between the first and second year of work but other options are available) | 6 |
| IV. Second Year | |
| URP 791-792 Planning Studio | 6 |
| Electives ⁵ | 17-18 |
| Total hours | 54 |

⁴Students who select the Land Use and Environmental Planning Option will substitute URP 741 Environmental Management Planning I and take URP 661 Principles of Urban Design, in the second year.

⁵Students who select one of the options will take courses as outlined in the curriculum statement for the respective option.

OPTIONAL SPECIALTIES

The courses in the optional specialties are taken as electives in the regular curriculum. Thus, a student wishing to specialize would devote most of his first year to required courses, while most of the second year would be devoted to his specialty.

LAND USE AND ENVIRONMENTAL PLANNING

| Required Courses | Credits |
|--|---------|
| URP 741 Environmental Management Planning I | 3 |
| Plus at least three of the following courses | 9 |
| URP 652 Legal and Legislative Foundations of Planning II | |
| URP 721 Recreation Systems Planning I | |
| URP 732 Metropolitan Circulations Systems | |
| URP 742 Environmental Management Planning II | |
| URP 745 Dynamics and Issues in Housing | |
| BUS 627 Urban Land Development | |
| Total | 12 |

Recommended Electives (see bulletin for courses given in alternate years)

| | |
|--|--|
| URP 571 Introduction to the Study of the Future | |
| URP 641 Social Change and Community Planning | |
| URP 682 An Economic Approach to Environmental Issues | |
| URP 722 Recreation Systems Planning II | |
| URP 731 Economic Development Planning | |
| URP 746 Housing Development Planning | |
| URP 782 New Towns Planning | |
| URP 797 Directed Research | |
| URP 798 Thesis or Project | |

COMMUNITY SERVICES PLANNING

| Required Courses | Credits |
|---|---------|
| URP 641 Social Change and Community Planning | 3 |
| URP 536 Urban Poverty Law | 3 |
| URP 511 Urban Public Policy Making Processes | |
| or | |
| URP 512 Metropolitan and Regional Public Management | 3 |
| Plus any two of the following courses (see bulletin for courses given in alternate years) | 6 |
| URP 571 Introduction to the Study of the Future | |
| URP 721 Recreation Systems Planning I | |
| URP 722 Recreation Systems Planning II | |
| URP 731 Economic Development Planning | |
| URP 745 Dynamics and Issues in Housing | |
| RCO 525 Introduction to Rehabilitation | |
| RCO 607 Community Resources | |
| AJP 612 Public Safety: Policy Issues in Administration of Justice | |
| AJP 655 Public Safety: Planning Politics of Community Based Corrections | |

| | |
|--------------------------------------|----|
| SLW 540 Social Policy and Aging | |
| HHA 614 Health and Hospital Planning | |
| Total | 15 |

URBAN AND REGIONAL ECONOMIC DEVELOPMENT

| Required Courses | Credits |
|---|---------|
| URP 731 Economic Development Planning | 3 |
| URP 511 Urban Public Policy Making Processes or URP 512 Metropolitan and Regional Public Management | 3 |
| PAD 605 Economics of the Public Sector or ECO 616 Advanced Public Finance | 3 |
| Plus any one of the following: (see bulletin for courses given in alternate years) | 3 |
| URP 522 Programming and Budgeting | |
| URP 536 Urban Poverty Law | |
| URP 682 An Economic Approach to Environmental Issues | |
| ECO 532 Manpower Economics | |
| ECO 611 Concepts of Economics | |
| ECO 616 Advanced Public Finance (if not taken as a requirement) | |
| PAD 605 Economics of the Public Sector (if not taken as a requirement) | |
| Total | 12 |

HEALTH PLANNING

| Required Courses | Credits |
|---|----------|
| HHA 602 Health Care Organization and Services | 4 |
| HHA 614 Health and Hospital Planning | 4 |
| HHA 616 Seminar in Allied Health Planning | 3 |
| HHA 604 Health Economics (3 hours) or HHA 662 Health Care and the Political Process (2 hours) | 2 or 3 |
| Total | 13 or 14 |

ADMISSION POLICY

Beyond the general admissions standards set forth in the general information section, specific admission requirements for the graduate program in urban and regional planning are that students have a minimum of a 2.7 grade average (on a 4.0 scale) in their last 60 semester hours of undergraduate work. In addition, a grade point average of not less than 3.0 must have been maintained in their undergraduate majors.

Students not meeting these requirements may be admitted to the program on a probationary basis. The probationary period shall consist of the first 12 hours of graduate work in which all grades must be no less than a "B."

REQUIREMENTS AND PROCEDURES FOR ADMISSION

1. The applicant is required to make application on an approved application form.

2. Three letters of reference from those persons qualified to give information concerning the applicant's promise of success in graduate study are required on official reference forms.

3. One copy of the official transcript with the school seal affixed from the registrar, not the applicant, of all colleges or universities attended must be submitted.

4. The applicant must submit a letter stating reasons for wanting to enter graduate study in urban and regional planning at Virginia Commonwealth University.

5. A nonrefundable application fee of \$10 in the form of check or money order, payable to Virginia Commonwealth University, must be submitted.

6. Applicant must submit the results of the Graduate Record Examination. Application forms for the examination are available through this department upon request, or may be obtained from Graduate Record Examination, Educational Testing Service, Box 955, Princeton, New Jersey 08540.

Note: There are specific deadlines for registration for the examination.

7. The latest dates for submitting application materials are August 1 to be considered for the following September, and December 1 for the following January. However, all candidates—especially those applying for financial aid—are urged to apply before March 1 in order to have the best chance of being accepted or receiving an award of financial assistance for the following academic year. Applicants who submit materials by March 1 will be notified of the decision of the Admissions Committee by mid April.

8. Send all application materials to the Chairman, Department of Urban Studies and Planning, Virginia Commonwealth University, 812-814 West Franklin Street, Richmond, Virginia 23284.

Note: Students who have completed graduate work in other graduate departments, whether at Virginia Commonwealth University or another university, will be

limited to a transfer of no more than 12 credit hours work if such work is considered relevant by the program Admissions Committee.

FOREIGN STUDENTS

Foreign students are encouraged to apply to the planning program. Several members of the faculty have experience in countries other than the United States.

The university has a foreign student advisor who meets with all foreign students after their arrival, counsels and advises them in their adjustment to the university, and prepares the necessary government forms needed by foreign nationals to maintain correct visa status with the U.S. government. The university is usually able to provide housing for foreign students.

In order for the university to qualify with the United States government as a place for training for international students and visitors, the university is obligated to determine: (a) that applicants have the necessary ability and educational backgrounds to benefit from their experiences at this institution; (b) that their proficiency in English is sufficient to carry a full program of study or training as this institution and community have no resources for teaching English as a second language; and (c) that they have all the funds necessary for their expenses for the entire period of their stay without resorting to employment while in the United States. The special application forms for foreign students should be requested from the department.

FINANCIAL AID

The university maintains a Financial Aid Office which is discussed on page 17 under General Information.

Also there is a limited amount of financial aid provided by the Department of Urban Studies and Planning. Application forms are available from the department for the following forms of aid:

1. **Teaching Assistant Positions.** Duties involve helping in the instruction of undergraduate courses in the Departments of Urban Studies and Planning and Recreation. The level of support varies according to the work level, financial need, and scholarship.

2. **Tuition Scholarships.** There are a limited number of tuition scholarships for full-time students.

3. **Research Assistant Positions.** Support for these positions include tuition and a living allowance. The number of positions depends upon the level of sponsored research carried out by the department in each year.

4. **Department Assistant.** There are funds available for work in the office of the Department of Urban Studies and Planning. Duties include running errands, typing, filing, and helping with department projects. The pay is by the hour, from 10 to 20 hours a week.

5. **The Kathryn A. Rhoades Memorial Scholarship.** This scholarship was established by the friends and colleagues of Kathryn Rhoades, who served as secretary to the Department of Urban Studies and Planning between 1972 and 1975. Ms. Rhoades' dedicated service was instrumental in the early formation of the planning program. She is remembered as a helpful friend by the students of the program who have helped make this scholarship possible.

POLICIES FOR GRADUATE STUDIES

1. Degree recipients must have received an overall grade point average of 3.0 ("B") in order to graduate from the program.

2. A student who receives a grade of "C" or below for more than six hours of credit will automatically be dropped from the program.

3. Full-time graduate status shall consist of a minimum of nine and a maximum of 16 credits per semester. A maximum of 12 semester credits may be earned in summer sessions each summer.

4. A grade of "Incomplete" presupposes that the student is doing passing work on the completed portion of the course, but is unable to meet all the requirements of the course by the end of the term. A grade of "Incomplete" should not be given without an understanding between the instructor and the student. The maximum time limit for the removal of an "Incomplete" for a course other than the thesis is the end of the semester following the semester (or summer session) in which the "Incomplete" was

incurred. At the end of the succeeding semester, an unremoved grade of "Incomplete" automatically is changed to a grade of "F." Exceptions to this procedure must be approved by the school or department chairman upon recommendation of the instructor prior to the time limit and a statement filed with the registrar. An "Incomplete" on the thesis must, of course, be removed within the time allowed for the completion of the degree.

The grade of "Progress" may be used only in courses designated by the Committee on Instruction of the Academic Campus. "PR" is assigned as an interim grade for courses which are not completed at the time final grades are to be submitted. A grade of "PR" will not be included in the calculation of the grade point average (GPA).

5. A minimum of at least half of the courses required in the student's program shall be those designated as exclusively for graduate students; that is, those at the 600 level or above.

6. Although approval is normally granted, students must acquire the approval of their advisor before enrolling for any unspecified elective.

GRADUATE COURSES IN URBAN AND REGIONAL PLANNING (URP)

First Year Required Courses

514 Techniques of Mapping and Cartographic Analysis. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Prerequisite: permission of instructor. Methods of map compilation, map design, geographic base files, and computer cartography in urban planning.

531 Introduction to Urban and Regional Planning. Semester course; 3 lecture hours. 3 credits. Introduction to the history, concepts, and activities of urban planning and their relationship to the ethics and responsibilities of planners.

532 Problems in Urban and Regional Planning. Semester course; 3 lecture hours. 3 credits. Regional planning concepts. Trends in urbanization and the planning responses.

633 Urbanization and Land Use Policy. Semester course; 3 lecture hours. 3 credits. *Interregional differences* in urbanization and the resulting hierarchy (size-mix) of cities. Implications for land use policy with respect to agriculture, suburban development, low income housing, environmental issues, etc. Alternative

policies such as zoning, land banking, controlled growth, and taxation.

651 Legal and Legislative Foundations of Planning I. Semester course; 3 lecture hours. 3 credits. Delineates the legal and legislative basis for planning at local, state, and federal levels. Judicial precedents in land use controls are investigated, including private controls, traditional zoning, administration of zoning ordinances, new flexible zoning concepts, development timing and growth controls, exclusionary land use practices, subdivisions controls, and eminent domain.

661 Principles of Urban Design. Semester course; 3 lecture hours. 3 credits. Principles of urban design at the micro-and macro-scale. Expression of planning objectives in physical design, with emphasis on the relationship between urban design at various scales and the needs of individuals and groups.

671 Planning Methods I: Planning Information Systems and Research Design. Semester course; 4 lecture hours. 4 credits. Research methods applied to problems of planning and public policy. Statistical analysis through multiple regression. Introduction to data sources and methods of survey research. Introduction to data processing and the use of statistical packages for the computer.

672 Planning Methods II: Plan Formulation and Implementation Strategies. Semester course; 4 lecture hours. 4 credits. Prerequisite: URP 671. Emphasizes policy analysis, statements, and presentation of policy alternatives; development of strategies to intervene in problem situations; elements of plan formulation; techniques and tools for plan implementation; implementation as an iterative process; and the selection of implementation strategies.

First Year Electives

511 Urban Public Policy-Making Processes. Semester course; 3 lecture hours. 3 credits. A study of the dynamics of conflict resolution in behalf of and within the urban community; the manner in which competing interests are articulated and aggregated in attempts to shape urban public policy, the various levels, and kinds of governmental machinery designed to resolve the conflicts.

512 Metropolitan and Regional Public Management. Semester course; 3 lecture hours. 3 credits. Examines the relationship between metropolitan growth and the fragmentation of governmental systems; assesses capacity of fragmented governmental systems to formulate rational public policy in relation to forces impeding or facilitating political integration of a metropolitan area; evaluates mechanism designed to governmental fragmentation.

515 Air Photo and Remote Sensor Interpretation. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Collection of data from aerial photography and other remotely sensed materials. Deals with introductory photogrammetry, object recognition, stereograms,

area measurement, and mapping from aerial photos in the planning process.

522 Programming and Budgeting. Semester course; 3 lecture hours. 3 credits. An examination of the manner in which governments determine program priorities and allocate public resources to carry out these programs. Special consideration is made of the need to establish long-term planning policies so that orderly funding can be realized.

526 Urban Poverty Law. Semester course; 3 lecture hours. 3 credits. Examines and evaluates developing case law and selected legislation in areas of special concern to low and moderate income groups: legal services, public welfare law, labor law, housing law, family law, consumer law, and criminal procedure.

571 Introduction to the Study of the Future. Semester course; 3 lecture hours. 3 credits. Considers the perspectives, assumptions, and forecasts of futurists and the methods and tools of future research; examines those forces which are presently shaping the future environment and addresses issues of paramount importance in the '70's and '80's.

633 Urbanization and Land Use Policy. Semester course; 3 lecture hours. 3 credits. Interregional differences in urbanization and the resulting hierarchy (size-mix) of cities. Implications for land use policy with respect to agriculture, suburban development, low income housing, environmental issues, etc. Alternative policies such as zoning, land banking, controlled growth, and taxation.

641 Social Change and Community Planning. Semester course; 3 lecture hours. 3 credits. Analyzes social change and community dynamics as related to social goal setting in urban and regional planning. Deals with urban and metropolitan areas as a system of interacting social groups: techniques of establishing interrelationships between social goals and other planning elements emphasized.

652 Planning, Administration, and the Legal Process. Semester course; 3 lecture hours. 3 credits. Major emphases are administrative law, legislation, and substantive environmental law. Judicial review of administrative actions; notice, hearing, investigative requirements; the planner and administrator as expert witnesses; legislative language; drafting of legislation; legislative process; NEPA: air, water, and water-lands; solid waste; herbicides and pesticides; noise; and critical man-made areas are investigated.

Internship Required

701 Planning Internship. Summer; 6 hours.

Second Year Required Courses

791-792 Planning Studio. Year course; 6 studio hours. 6 credits. Individual student projects intended to give the student experience in applying theory and

methodology gained from the second year course offerings to solve selected planning problems.

Second Year Electives

682 An Economic Approach to Environmental Issues. Semester course; 3 lecture hours. 3 credits. The effect of externalities in terms of efficiency and equity considerations. The role and problems of benefit cost analysis in decision making. The interrelationship of air, water, and land quality issues is analyzed. The use rate of natural resources, energy consumption, and the steady state economy and their impacts are evaluated.

721,722 Recreation Systems Planning I, II. Semester courses; 3 lecture hours. 3, 3 credits. First semester: an examination of the demand for recreation; recreation as an integral part of urban and regional planning. Second semester: general principles of planning and development of basic recreation areas and facilities; standards relative to size, location, and programs; trends in recreation facility development.

731 Economic Development Planning. Semester course; 3 lecture hours. 3 credits. Examines current theories of economic development as they relate to low income groups, political jurisdictions, and metropolitan-wide economic systems. Emphasis on the structuring of economic development strategies for metropolitan areas that encourage the imbalance between high growth peripheral areas and the inner city area of decline.

732 Metropolitan Circulation Systems. Semester course; 3 lecture hours. 3 credits. Examination of urban activity systems and their requirements for mobility. Explores the impact of technological change in communication and transportation modes on access and circulation patterns.

741, 742 Environmental Management Planning. Semester courses; 3 lecture hours. 3, 3 credits. Defines the impact of urban activities on the natural environment within a metropolitan context and stresses dependency relationships between man-made and natural environments. Applies resources and management concepts to the use of land, air, and water.

745 Dynamics and Issues in Housing. Semester course; 3 lecture hours. 3 credits. Examines and evaluates current problems in urban housing within the dynamics of metropolitan development.

746 Housing Development Planning. Semester course; 3 lecture hours. 3 credits. Housing planning as a distinct subfield of urban planning, emphasizing means of linking planning concepts with implementation. The means of articulating housing policies at the state, regional, and local levels are analyzed.

782 New Towns Planning. Semester course; 3 lecture hours. 3 credits. Extensive evaluation of new towns and planned unit development (PUD) concepts and experiences; changes in communication and transportation technology, changes in employment requirements as

they will affect future life styles; and anticipated shifts in locational requirements or urban functions (Not offered every year, consult the class schedule.)

797 Directed Research. 1-3 credits. May be repeated for a total of six credits. Prerequisites: permission of instructor and graduate standing. Independent research into planning problems, issues, and theories.

798 Thesis or Projects. 2-6 credits. Prerequisites: permission of instructor and appropriate research methods course. Planning, preparation, completion, and presentation of a thesis or project.

ELECTIVES IN OTHER PROGRAMS

Department of Administration of Justice and Public Safety (AJP)

612 Public Safety: Policy Issues in the Administration of Justice. Semester course; 3 lecture hours. 3 credits. Examines critical public policy issues relating to the administration of justice in terms of society's interests. Emphasizes policy and planning implications of inter-agency relationships, the impact of social change in the criminal justice process, and community involvement on the control and prevention of crime in an urbanized society. Special attention is directed to the distribution of crime and disturbance, the development of public safety indicators, and the alternative for governmental response.

655 Public Safety: Planning and Politics of Community Based Corrections. Semester course; 3 lecture hours. 3 credits. Examines the process of planning community-based correctional programs. Administrative problems relating to budgeting, staffing, and managerial policy making are considered. Political considerations in seeking to introduce innovative correctional programs involving the community and criminal justice agencies are reviewed as part of the planning process.

Department of Rehabilitation Counseling (RCO)

525 Introduction to Rehabilitation. 3 credits. This course is designed to give the student a comprehensive overview of the rehabilitation process. It emphasizes the historical, philosophical, social, and legal aspects of rehabilitation. Special attention is devoted to the professional aspects of rehabilitation counseling. The need for rehabilitation counseling and the skills and functions of the rehabilitation counselor are also covered.

607 Community Resources. 3 credits. This course emphasizes the means by which the community uses its resources and services to meet the needs of handicapped persons. It provides for study and discussion of the nature and organization of community resources as they relate to rehabilitation; availability of community resources through public and private agencies and

facilities including employment potentials, problems in the development and utilization of community resources, observational visits to key agencies, and lectures by representatives of various rehabilitation programs.

School of Social Work (SLW)

540 Social Policy and Aging. 2 credits. Course open to senior social work majors and graduate social work students. An examination of the legislative and judicial processes related to the aged and their problems. Evaluates the need for local, state, and national policies on aging.

Graduate Program in Public Administration (PAD)

605 Economics of the Public Sector. Semester course; 3 lecture hours. 3 credits. Economic theory of the public sector with varied applications including cost benefit analysis, pricing, and financing of public services. Examines the nature of public goods and services ranging from client-oriented services to capital investment. Also examines the relationship between the public and private sectors in economic development.

School of Business (ECO and BUS)

ECO 532 Manpower Economics. Semester course; 3 lecture hours. 3 credits. Considers supply features of the labor market. Emphasis upon evaluating existing federal manpower programs and the effectiveness of manpower and training strategies designed to increase employment.

ECO 611 Concepts in Economics. Semester course; 3 lecture hours. 3 credits. Essential economic concepts including the price system, price determination in imperfectly competitive markets, employment theory, and monetary theory. Not open to students who have completed ECO 201, 202, or the equivalent.

ECO 616 Advanced Public Finance. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 306 or equivalent or permission of instructor. Theory and application of public finance, including taxation, expenditures, budgeting. Special attention to cost benefit analysis and to intergovernmental relations in a federal system.

BUS 627 Urban Land Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. A study of contemporary issues and practices in the development, financing, management, and marketing of urban real estate resources.

Department of Hospital and Health Administration (HHA)

602 Community Health Organization and Administration. Semester course; 3 lecture hours. 3 credits. This course is a foundation course for all health and hospital administration graduate students. The course deals with the social and political foundations of the current health scene and provides for a critical look at the determinants of health, illness, and disease as well as the various ways health services are delivered. Special emphasis is placed on major components and changing characteristics.

604 Health Economics. Semester course; 2 credits. Develops an understanding of: (1) economics as a managerial tool in making choices or decisions that will provide for an optimum allocation of limited health care resources and, (2) economics as a way of thinking about and approaching issues of public policy in financing and organizing health and medical services. Individual research on crucial or controversial economic issues in the health field.

614 Health and Hospital Planning. Semester course; 3 lecture hours. 3 credits. Examines the planning process in the context of both the community and the institution. Considers the essential components of planning and the development of a sound structure for planning. Examines the legal, regulatory, economic, and human factors that influence the planning process.

616 Seminar in Applied Health Planning. Semester course; 3 lecture hours. 3 credits. Provides students with opportunities to apply planning methodology, including problem definition, research design, information gathering, and evaluation, to actual health issues and problems.

662 Health Care and the Political Process. Semester course; 2 lecture hours. 2 credits. Examines the political process with particular emphasis on the impact of politics on health care. Focuses on current political issues in the health field, examining conflicts, and anticipating effects on the health system.



School of Education

The School of Education was formally established in 1964 as a part of Richmond Professional Institute. At that time the school granted bachelor's degrees in elementary education only and offered required courses for certification in some secondary fields. During the first year, 300 students were enrolled and four full-time faculty were employed.

Today VCU's School of Education offers various programs leading to bachelor's degree and master's degree programs in educational leadership and personnel development, elementary education, health and physical education, secondary/post-secondary education, and special education. The School of Education's graduate programs emphasize field-based teaching experiences and research to better enable students to tailor their courses of study to meet individual needs and professional interests.

The School of Education is accredited by the Virginia State Department of Education and the Southern Association of Schools and Colleges and holds membership in the American Association of Colleges of Teacher Education.

PURPOSE

The School of Education is committed to

providing relevant programs responsive to the needs of various educational agencies and, at the same time, improving and enhancing the professional skills of its students. Primary purposes of the school are: to provide quality professional education which develops and refines teacher competencies in light of continuous social change; to nurture among faculty and students a deep involvement in educational research and scholarly activity which improves instructional procedures, assists school systems and agencies in identifying and solving educational problems, and enhances and extends knowledge of the field of education; and to provide continuing professional support services to public school systems and agencies in the Richmond metropolitan area and surrounding cities and counties.

FACILITIES

The majority of the facilities of the School of Education are housed in Oliver Hall, which was opened in late 1975 and was designed to provide laboratory and activities centers for development of curriculum materials as well as the more traditional lecture classrooms.

For example, the Teacher Resource Center includes a handsaw, drill press,

assorted tools, latex enamels, a dry mount press, cardboard, and lumber. With these basic supplies plus a reference shelf of why-not-try-it curriculum ideas, students are encouraged to build classroom learning centers, hand-built furniture, or other materials of instructional value for the classroom.

Media laboratories, encompassing a TV/micro-teaching facility, offer students a setting to plan, develop, and criticize their own instructional strategies and materials. In addition, a multi-sided, open-space area on the top floor is designed for a number of creative teaching activities. This laboratory classroom lends itself to dance movement demonstrations, art work displays, dramatic presentations, and symposiums on prominent education topics.

Throughout the building are demonstration classrooms, where a student is able to work with area children in an instructional role and be observed firsthand by instructors and classmates who evaluate the effectiveness of teaching strategies.

Other facilities utilized by the School of Education are the Child Study Center, the Reading Center, and the Adult Learning Center. All are located in the Cathedral Center. At each center, students work with members of the community, faculty, and other students to foster educational growth. Particular attention is focused on improving reading and comprehension skills.

Graduate work at VCU enables students to engage in or continue teaching experiences in local school systems or agencies in addition to the on-campus facilities. Such experiences allow students the opportunity to apply their learning in actual educational situations.

ORGANIZATION

The chief administrative office for the school is the Office of the Dean. The school is organized into the Departments of Educational Leadership and Personnel Development, Elementary Education, Health and Physical Education, Secondary/Post-Secondary Education, and Special Education.

In addition, the Office of Student Services and the Director of Continuing Education provide assistance to the graduate student. The Office of Student Services serves as a center for information, materials, and applications necessary for certification and endorsement of educational personnel in Virginia. Coordination of placement of student teaching, practicums, and internships is also handled by this office. Student teachers and interns are placed primarily in the school systems of the city of Richmond; Henrico, Chesterfield, and Hanover Counties; and increasingly in Goochland, Powhatan, and New Kent Counties as well as the city of Petersburg.

This office also coordinates information about and the administration of several national testing programs including the College Level Examination Program (CLEP), the Medical College Admissions Test (MCAT), the National Teacher Examinations (NTE), and the Graduate Record Examinations (GRE). Finally, the Office of Student Services is responsible for the distribution and collection of all materials regarding application to graduate study in the School of Education.

The Office of the Director of Continuing Education coordinates all offerings in the area of continuing education for the school. As a service to teachers and administrators in area school systems, the School of Education is expanding its off-campus offerings and in-service training opportunities to include day-long in-service events, a series of structured workshops designed for certificate renewal or graduate credit, credit or non-credit courses, and degree programs.

CERTIFICATION FOR EDUCATIONAL PERSONNEL

All graduate programs in the School of Education are approved by the Virginia Department of Education. Virginia is a member of the National Association of State Directors of Teacher Education and Certification (NASDTEC), which has a national reciprocity agreement for teacher certification. Certification is based on successful completion of an approved program developed in response to nationally recognized standards. All graduate programs

within the School of Education have approved program status and are a part of the NASDTEC Certification Reciprocity Agreement.

POST-MASTER'S DEGREE OPPORTUNITIES

The School of Education at Virginia Commonwealth University has an inter-institutional agreement with the College of Education at Virginia Polytechnic Institute and State University in Blacksburg for joint, cooperative post-master's degree work in Richmond. Work is offered in educational leadership, adult education, vocational-technical education, community college, and student personnel services. Interested students are encouraged to write to the Office of Student Services, School of Education, for specific information and applications.

DEGREE PROGRAMS

The School of Education grants one of three master's degrees to candidates completing all appropriate degree requirements. A Master of Education degree is offered in 10 areas: administration and supervision, adult education, biology education, counselor education, distributive education, elementary education, mathematics education, special education-emotionally disturbed, special education-learning disabilities, and special education-mental retardation. A Master of Science degree is offered in physical education and a Master of Arts degree in English/English education.

FINANCIAL AID

Financial aid is available for full time students. Scholarships and assistantships are awarded on the basis of scholarship and need. Scholarships can be awarded only to students who are legal residents of Virginia; assistantships may be awarded to non-residents. All applicants for financial aid must be admitted to a graduate program and attending full time. Scholarships awarded usually range from \$250 to \$1,000 for the academic year. Assistantships average \$2,000 for the academic year. The deadline

for making application is August 15, and forms may be obtained from the Office of Student Services.

ADMISSION

Any student holding an earned baccalaureate degree from an institution acceptable to Virginia Commonwealth University may take appropriate graduate level courses. However, only six semester hours of appropriate graduate credit may be transferred toward a degree. This regulation applies whether the courses have been taken at Virginia Commonwealth University prior to admission or whether the courses are accepted on transfer from another institution.

Admission to a degree program involves admission to both graduate study in the School of Education and to a specific degree program. Some individual degree programs have admission requirements beyond the general school requirements. Applicants complete one set of credentials specifying the degree program to which they are seeking admission.

PROCEDURES

The Office of Student Services is the distribution and collection office for all materials related to graduate program admission in the School of Education. An admission packet containing all materials needed to apply for graduate study may be obtained from the Office of Student Services, School of Education, Oliver Hall, Room 2087, Virginia Commonwealth University, Richmond, Virginia 23284.

Completed materials, transcripts, test scores, and all inquiries regarding admission should be directed to this office.

Upon receipt of all materials, the applicant's credentials will be reviewed by the Admissions Committee, composed of representatives from both the school and the specific program. Admission to full graduate status will be granted upon meeting both general and specific program requirements. Under normal circumstances, an applicant might anticipate an admission decision within 30 days following receipt of all materials.

GENERAL REQUIREMENTS

The admission decision will be made on an overall analysis of the following:

1. Completed application form for graduate study in the School of Education.

2. Acceptable scores, as determined by the Graduate Committee, on the Aptitude Test of the Graduate Record Examinations or the Miller Analogies Test.

3. Evaluation of all undergraduate and graduate transcripts. A grade point average of 2.8 on a 4.0 point scale on the last 60 semester hours of undergraduate academic study is considered minimal.

4. Names, addresses, and phone numbers of three individuals who are in a position to evaluate the applicant's performance as a professional or a prospective professional in the field of education. References may be contacted by the Admissions Committee.

5. Specific program admission requirements, which may include a personal interview.

SPECIFIC PROGRAM REQUIREMENTS

Programs in the Department of Educational Leadership and Personnel Development

Administration and Supervision

Applicants should have a minimum of two years successful teaching or equivalent experience. Ordinarily, the applicant will have an undergraduate degree which qualifies the applicant for professional certification as a teacher.

Counselor Education

Applicants anticipating endorsements as guidance counselors in Virginia public schools should hold a valid professional teaching certificate and a minimum of one year's teaching experience.

Programs in the Department of Elementary Education

Applicants should hold a valid professional teaching certificate in an area of elementary education or meet that requirement prior to the granting of a Master of Education degree.

Programs in the Department of Physical Education

Applicants should hold a valid profes-

sional teaching certificate in physical education or meet that requirement prior to the granting of the Master of Science degree. For students who did not major in physical education at the baccalaureate level, certain courses and experiences at the undergraduate level may be required prior to admission to full graduate status.

Programs in the Department of Secondary/Post-Secondary Education

Adult Education

No specific program requirement

Distributive Education

Applicants should hold a valid professional teaching certificate in the area of distributive education or meet all certification requirements prior to the granting of a Master of Education degree.

Secondary Education (biology education, mathematics education, or English/English education) Applicants must hold a valid professional teaching certificate in the appropriate field or complete all certification requirements prior to the granting of a Master of Education degree.

Programs in the Department of Special Education

The programs in special education require that a student applying for admission have a valid professional teaching certificate in an area of special education or meet that requirement prior to the granting of a Master of Education degree. For the program in learning disabilities, applicants must have a minimum of two years' successful teaching experience.

GENERAL DEGREE REQUIREMENTS

The recommendation to confer a Master of Education or Master of Science degree is made by the faculty upon satisfactory completion of all degree requirements. These include successful completion of an approved plan of study, admission to candidacy, successful completion of a comprehensive examination, and a completed application for graduation. Each step is discussed below.

I. Program of Study

An approved program of study consisting

of no less than 33 semester hours of graduate credit is required for the master's degree in the School of Education. The distribution of credit is as follows:

- A. Foundations (nine hours distributed as outlined below).
- B. Program (minimum of 15 hours). Each candidate will complete at least 15 hours of graduate credit in a field of concentration as approved by the student's advisor.
- C. Electives. Each candidate may take electives that are related to the field of study or which will provide balance and breadth in the total program. Specific electives must be approved by the student's advisor.
- D. Thesis or Additional Credit. These may be required in a specific degree program.

Foundations Requirements. All students will complete nine semester hours of work selected from approved courses in these foundational areas. Students must select one three hour course from each of the following areas: human development and learning; cultural, historical, and philosophical; and research. Students enrolling for their first term during the fall 1977 semester may take, with permission of their advisor, six of the nine required hours in one of the above areas. Courses meeting the foundations requirement include:

- (a) Human Development and Learning
EDU 602 Adolescent Growth and Development
EDU 603 Seminar in Child Growth and Development
PSY 607 Advanced Educational Psychology
EDU 609 Learning Strategies for the Classroom
- (b) Cultural, Historical, and Philosophical
EDU 601 Philosophy of Education
EDU 607 Social Foundations of Education
EDU 608 History of Western Education
EDU 612 Education and the World's Future
EDU 614 Contemporary Educational Thought

(c) Research

EDU 660 Methods of Research
EDU 606 Review of Research
EDU 629 Development of Research Techniques in Physical Education

Transfer Credit. A degree program in the School of Education is a carefully determined sequence. For this reason, transfer credit is not encouraged. A maximum of six semester hours of transfer credit may be applied toward a Master of Education, Master of Science, or Master of Arts degree in the School of Education. Only credits taken in a graduate degree program at an appropriately accredited institution may be transferred.

Admitted students may transfer up to six hours of credit, if they receive the approval of their advisor and department chairman prior to taking the credit.

Student Program Planning. Before enrolling in any graduate courses following admission to a program of study, the student must complete and have approved a program plan. The program plan, developed cooperatively by the student and his advisor and filed in the Office of Student Services, will outline the sequence of experiences the student will include in his degree program. *No departure from this proposed program of study will be permitted without the student's written request and the approval of the student's advisor and department chairman. This request must be filed with the Office of Student Services in the School of Education.*

II. Admission to Candidacy

Admission to graduate study does not constitute candidacy for a degree. Rather, a student who has been admitted to graduate study is advanced to degree candidacy upon the recommendation of the department in which the degree is sought.

Advancement to degree candidacy requires that the candidate must have completed at least nine but no more than 15 semester hours of graduate study with a minimum grade point average of 3.0; clearly

demonstrated the aptitude and ability to pursue graduate work, including independent study; exhibited a commitment to education as a profession; and demonstrated promise for a successful career in the field selected in terms of temperament and personality. Admission to degree candidacy is not an automatic process, but rather the application for candidacy is approved by the department only after careful evaluation of all pertinent factors. Only students who have been admitted to candidacy may pursue additional work toward the degree.

III. Comprehensive Examination

Written comprehensives will be administered by each department during the semester in which the candidate enrolls in his thirtieth hour of credit. Comprehensive examinations will be graded on the candidate's ability to synthesize and apply information from a number of academic areas to practical problems. Departments will determine the specific areas in which a student will be examined as well as the method of evaluation to be used. Students will be informed by their departments of these procedures. A minimum of three committee

members will grade each examination independently. Students will be informed by their departments as to options they may take to rectify a failing grade on any examination or on any part of an examination.

Written examinations will be given on the first Saturday in November, the fourth Saturday in March, and the second Saturday in July. The student must notify the department of his/her intention to take the exam at least 30 days prior to the published date.

Students will have only two opportunities to pass the comprehensive examination.

IV. Application for Graduation

Each student who expects to complete his degree requirements by the end of a semester or summer session is required to file an application for degree. Applications are available from the Office of the University Registrar and must be submitted by the students to their advisors no later than the dates indicated in the calendar appearing in the *front* of this bulletin. Students should allow time for a conference with their advisors and should note that the application requires the approval of the department chairman and dean.

STEPS to Completing a Master's Degree

| STEP | WHEN | WHERE |
|----------------------------|--|--|
| 1. Admission | 0-6 hours | Office of Student Services |
| 2. Program of Studies | 0-6 semester hours | With advisor, approved by chairman and Office of Student Services |
| 3. Candidacy | 9-15 semester hours | Application approved by advisor, program faculty, chairman, Office of Student Services |
| 4. Application to graduate | last semester dead-line on university calendar in front of this bulletin | Application from registrar—approved by advisor, dean's office, chairman, returned to registrar |

SPECIFIC DEGREE REQUIREMENTS

A degree program in the School of Education is a carefully determined sequence of courses and experiences. Each program is individually designed within

degree requirements, through the cooperative efforts of the student and the advisor, and must be filed in the Office of Student Services. The following materials explicate the usual degree course requirements; how-

ever, they are not a substitute for the advisement process. No student's program of study will be considered final until it has been approved by an advisor and filed in the Office of Student Services.

PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL LEADERSHIP AND PERSONNEL DEVELOPMENT

The Department of Educational Leadership and Personnel Development was formed in January, 1974, by merging the former Departments of Administration and Supervision with the Departments of Guidance and Counseling. This merger was based on the assumption that combining programs leading to certification of principals, supervisors, directors of instruction, assistant superintendents, counselors, and other pupil personnel specialists could provide for the development of a team approach to the planning and execution of school programs. Thus, the department sees itself as committed to cooperative planning and the development of team-based leadership.

Graduate programs in this department lead to a Master of Education degree in either administration, supervision, or guidance and counseling. Certification is available in five areas: administration, supervision, vocational-technical education (jointly with the Department of Secondary/Post Secondary Education), counseling (NK-7 or 8-12), or visiting teacher (jointly with the School of Social Work).

M.ED. PROGRAM IN ADMINISTRATION AND SUPERVISION

| Administration Option | Credits |
|---|----------|
| Foundations Core | 9 |
| Program Core (18 Semester Hours Minimum) .. | 18 |
| EDU 610 School and Community Relations | 3 |
| EDU 615 Curriculum Development | 3 |
| EDU 620 Public School Administration | 3 |
| EDU 621 School Law | 3 |
| EDU 630 Supervision of Instruction | 3 |
| EDU 700 Internship | 3 |
| General Electives | 6 |
| | <hr/> 33 |

M.ED. PROGRAM IN ADMINISTRATION AND SUPERVISION

| Supervision Option | Credits |
|---|---------|
| Foundations Core | 9 |
| Program Core (18 Semester Hours Minimum) | 18 |

| | |
|--|---|
| EDU 615 Curriculum Development | 3 |
| EDU 620 Public School Administration | 3 |
| EDU 630 Supervision of Instruction | 3 |
| EDU 658 Evaluation of Instruction | 3 |
| EDU 700 Internship | 3 |
| Media Course | 3 |
| General Electives | 6 |

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Vocational-Technical Education Option Credits

| | |
|---|----------|
| Foundations Core | 9 |
| (Must include EDU 659 History and Philosophy of Vocational-Technical Education) | |
| Program Core—General Administration (15 Semester Hours) | |
| EDU 610 School and Community Relations | 3 |
| EDU 615 Curriculum Development | 3 |
| EDU 620 Public School Administration | 3 |
| EDU 621 School Law | 3 |
| EDU 630 Supervision of Instruction | 3 |
| Program Core—Vocational-Technical Education (9 semester hours) | |
| EDU 663 Curriculum Development in Vocational-Technical Education | 3 |
| EDU 619 Organization and Administration of Vocational-Technical Education | 3 |
| EDU 665 Supervision of Instruction in Vocational-Technical Education | 3 |
| | <hr/> 33 |

M.ED. PROGRAM IN COUNSELOR EDUCATION

| | Credits |
|---|----------|
| Foundations Core | 9 |
| Program Core (18/21 Semester Hours Minimum) | 18/21 |
| EDU 502 Guidance | 3 |
| EDU 676 Techniques of Counseling | 3 |
| EDU 678 Career Information and Exploration .. | 3 |
| EDU 679 Educational Measurement and Evaluation | 3 |
| EDU 690 Group Procedures in Counseling and Guidance | 3 |
| EDU 672 Advanced Practicum | 3 |
| EDU 675 Guidance in the Elementary Schools .. | 3 |
| General Electives | 3/6 |
| | <hr/> 33 |

M.ED. PROGRAM IN COUNSELOR EDUCATION

| Dual certification: Counselor and Home and School Visitor | Credits |
|---|---------|
| Foundation Core | 9 |
| Program Core (18/21 Semester Hours Minimum) | 18/21 |
| EDU 502 Guidance | 3 |
| EDU 676 Techniques of Counseling | 3 |
| EDU 678 Career Information and Exploration .. | 3 |
| EDU 679 Educational Measurement and Evaluation | 3 |
| EDU 690 Group Procedures in Counseling and Guidance | 3 |
| EDU 672 Advanced Practicum | 3 |

| | |
|--|----|
| *EDU 675 Guidance in Elementary Schools | 3 |
| Visiting Teacher | |
| Program Core (14 Semester Hours Minimum) | 14 |
| EDU 501 Pupil Evaluation | 3 |
| EDU 568 Psycho-Educational Diagnosis of Children OR | |
| EDU 661 Characteristics of Children with Learning Disabilities | 3 |
| SLW 601 Theory and Case Work Methods | 2 |
| SLW 667 Community Organization | 2 |
| SLW 688 Seminar | 2 |
| SLW 697 Sociology (Family) | 2 |
| | 44 |

PROGRAMS IN THE DEPARTMENT OF ELEMENTARY EDUCATION

The Department of Elementary Education offers graduate work leading to a Master of Education degree in elementary education. Four areas of concentration are offered: reading, early childhood, curriculum and instruction, and library/media.

Students completing the appropriate approved program may be recommended for certification as a reading specialist, early childhood NK-3 teacher, elementary 4-7 teacher, or school librarian. Certification as a reading specialist may only be completed through graduate work. Certification as a librarian, early childhood teacher, or elementary teacher may be completed in conjunction with a baccalaureate degree.

Reading Concentration

The reading concentration is designed in accordance with the certification requirements for reading specialists as specified by the Virginia State Department of Education. Students will gain an understanding of the nature of the language/reading process and the teaching of specific skills, along with an analysis of the major approaches to the teaching of reading. Diagnosis of reading problems and the application of remedial techniques will be emphasized.

M.ED. PROGRAM IN ELEMENTARY EDUCATION

| | <i>Credits</i> |
|---------------------------------------|----------------|
| Foundations Core | 9 |
| Program Core | 12 |
| EDU 526 Teaching of Reading | 3 |

*Elementary guidance endorsement only.

| | |
|---|---|
| EDU 605 Analysis and Correction of Classroom Reading Problems | 3 |
| EDU 700 Internship | 3 |
| Elect from | |
| EDU 525 Language Arts in the Elementary Schools | 3 |
| EDU 549 Developmental Reading in the Secondary Schools | 3 |
| EDU 604 Psycholinguistics and the Language Arts Curriculum | 3 |
| EDU 606 Review of Research | 3 |
| EDU 632 Seminar in the Dynamics of Reading Readiness | 3 |

Complete undergraduate or graduate level study in each of the following areas (at least one in each area): 12 (min.)

Measurement and/or Evaluation

Recommended:

| | |
|--|---|
| EDU 679 Educational Measurement and Evaluation | 3 |
| EDU 568 Psycho-Educational Diagnosis of Children | 3 |
| EDU 501 Pupil Evaluation | 3 |
| Child and/or Adolescent Psychology | |

Recommended:

| | |
|---|---|
| PSY 602 Psychology of Personality | 3 |
|---|---|

Psychology—including such aspects as personality cognition and learning behavior

Recommended:

| | |
|--|---|
| PSY 528 Mental Hygiene | 3 |
| PSY 603 Seminar in Social Psychology | 3 |
| PSY 607 Advanced Educational Psychology . . . | 3 |
| PSY 507 Abnormal Psychology | 3 |
| EDU 506 Psychology in the Classroom | 3 |

Literature for Children

Recommended:

| | |
|--|---|
| EDU 528 Children's Literature | 3 |
| EDU 533 Literature for Adolescents | 3 |

Early Childhood Concentration

The early childhood concentration is designed to help the graduate student develop 1) more depth in knowing young children and in recognizing their individual differences; 2) greater familiarity with appropriate educational activities, materials, equipment, and procedures; 3) deeper understanding of the wide variety of responses children make to learning activities; and 4) expertise in planning total programs for groups of young children.

M.ED. IN ELEMENTARY EDUCATION

| | <i>Credits</i> |
|----------------------------|----------------|
| Foundations Core | 9 |
| Program Core | 18 |

| | |
|---|----|
| A. (At least six credit hours) | |
| EDU 617 Programs in Early Childhood Education | 3 |
| EDU 666 Procedures in Early Childhood Education | 3 |
| EDU 632 Seminar in the Dynamics of Reading Readiness | 3 |
| EDU 700 Internship | 3 |
| EDU 610 School and Community Relations | 3 |
| B. (Credits needed to complete the required 18 credit hours for the early childhood specialization) | |
| EDU 507 Educational Media: Utilization | 3 |
| EDU 517 Teaching Elementary School Science | 3 |
| EDU 522 Teaching Elementary School Mathematics | 3 |
| EDU 525 Language Arts in the Elementary School | 3 |
| EDU 526 The Teaching of Reading | 3 |
| EDU 528 Children's Literature | 3 |
| EDU 529 Movement Education | 3 |
| EDU 530 Teaching in Urban Schools | 3 |
| EDU 531 Creative Teaching in the Elementary School | 3 |
| EDU 578 Creative Rhythmic Movement | 3 |
| EDU 591 Teaching Social Studies in the Elementary School | 3 |
| EDU 605 Analysis and Correction of Classroom Reading Problems | 3 |
| EDU 611 Theory and Practice in Social Studies | 3 |
| EDU 648 Preparation of Instructional Materials | 3 |
| C. Thesis—optional in lieu of six credit hours of course work | |
| EDU 701 Thesis | 6 |
| | 33 |

Curriculum and Instruction Concentration

The curriculum and instruction concentration is designed for the generalist in elementary education, the master elementary teacher seeking to extend and enrich professional skills, or in unusual cases, the student with a non-education baccalaureate degree seeking initial preparation as an elementary teacher. In the latter case initial certification may require work beyond the normal 33 hours required for the master's degree. The curriculum and instruction option is offered in two sequences: 1) an on-campus, more traditionally organized plan of study; and 2) a field-based sequence which allows the student to follow a specific program of learning experiences covering two summers and one field-oriented academic year. This program is action-oriented: classrooms in local schools or districts provide a base for on-the-job experiences. All field projects are developed

jointly by the student and faculty and have the approval of the student's school district.

Admission to the field-based sequence in curriculum and instruction is made once a year, starting with the six week-summer session. Students are enrolled in block-scheduled classes for a period of two summers and the intervening year.

M.ED. IN ELEMENTARY EDUCATION
Curriculum and Instruction Concentration

| On Campus Sequence | Credits |
|---|---------|
| Foundations Core | 9 |
| Program Core | 15/21 |
| A. Curriculum (6-9 credit hours from the following) | |
| EDU 544 Middle School Curriculum | 3 |
| EDU 613 Educational Change | 3 |
| EDU 615 Curriculum Development | 3 |
| EDU 653 Curriculum Construction | 3 |
| B. Instruction (9-12 credit hours) | |
| EDU 517 Teaching Elementary School Science | 3 |
| EDU 522 Teaching Elementary School Mathematics | 3 |
| EDU 525 Language Arts in the Elementary School | 3 |
| EDU 526 Teaching of Reading | 3 |
| EDU 531 Creative Teaching in the Elementary School | 3 |
| EDU 572 Practicum | 6 |
| EDU 591 Teaching Social Studies in the Elementary Schools | 3 |
| EDU 604 Psycholinguistics and Language Arts Curriculum | 3 |
| EDU 611 Theory and Practicum in Social Studies | 3 |
| EDU 649 Education Media: Theory and Practice | 3 |
| C. Thesis—(optional in lieu of six credit hours of course work) | |
| EDU 701 Thesis | 6 |
| Electives | 3/9 |
| | 33 |

Field-based Sequence

Summer I—Students enter the program—Field-oriented project for academic year is developed

| | Credit |
|--|--------|
| EDU 606 Review of Research | 3 |
| EDU 660 Research Methods in Education | 3 |
| EDU 615 Curriculum Development | 3 |
| Academic Year—Implementation of field project | |
| EDU 610 School and Community Relations | 3 |
| EDU 653 Curriculum Construction | 3 |
| EDU 672 Advanced Practicum | 3 |
| EDU 700 Internship | 6 |
| Summer II—Evaluation of field project | |
| EDU 614 Contemporary Educational Thought | 3 |
| EDU 616 Curriculum Seminar | 3 |
| EDU 525 Language Arts in the Elementary School or Elective | 3 |

Library/Media Concentration

The concentration in library/media offers expanded understanding of the use of the library, television, microfilm, and other forms of technology appropriate for school library use. A number of courses offer hands-on experiences in developing and analyzing a variety of instructional materials. Completion of this option may lead to certification as a school Librarian.

M.ED. IN ELEMENTARY EDUCATION (Library/Media Concentration)

| | <i>Credits</i> |
|--|----------------|
| Foundations Core | 9 |
| Program Core | 24 |
| EDU 507 Educational Media Utilization | 3 |
| EDU 509 TV in the Classroom | 3 |
| EDU 528 Children's Literature | 3 |
| EDU 533 Literature for Adolescents | 3 |
| EDU 534 Photography in Instruction | 3 |
| EDU 595 Reference and Bibliography | 3 |
| EDU 596 Library Organization | 3 |
| EDU 597 Cataloging and Classification | 3 |
| EDU 646 Media Center Development | 3 |
| EDU 648 Preparation of Instructional Materials | 3 |
| EDU 649 Educational Media: Theory and Practice | 3 |
| EDU 700 Internship | 3-6 |
| Electives | 0-3 |
| | — |
| | 33 |

PROGRAMS IN THE DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION

The graduate program in health and physical education seeks to provide an opportunity for each student to achieve his potential as a professional. Specific goals of the department are to provide knowledge, application, and practical experiences which will improve the graduate student's teaching ability and enhance his attitude toward the education profession in general and physical education in particular. Students are encouraged to concentrate electives to develop specialization in the areas of elementary physical education, secondary/college physical education, movement sciences, or administration and supervision.

The Master of Science degree in physical education assumes the applicant holds state certification; however, a student may obtain certification in health and physical educa-

tion (K-12) while pursuing a graduate degree in physical education.

| | <i>Credits</i> |
|--|----------------|
| Foundations Core | 9 |
| Program Core | 12/15 |
| EDU 592 Movement Physiology | 3 |
| EDU 681 Investigations and Trends in Teaching | 3 |
| EDU 626 Seminar of Motor Learning Performance | 3 |
| EDU 701 Thesis OR Independent Study | 3-6 |
| Concentrations | 6 |
| Elementary Physical Education OR | |
| EDU 589 Motor Development of Small Children | 3 |
| EDU 529 Movement Education | 3 |
| Secondary/College Physical Education OR | |
| EDU 624 Mechanical Analysis of Human Motion | 3 |
| EDU 599 Administration and Supervision of P.E. | 3 |
| Movement Sciences | |
| EDU 667 Exercise Physiology: Instrumentation and Techniques | 3 |
| EDU 624 Mechanical Analysis of Human Motion | 3 |
| Administration and Supervision—Joint 36 credit program with the Department of Educational Leadership and Personnel Development leading to Virginia Certification as a principal or supervisor. | |
| General Program Electives | 3/6 |
| | — |
| | 33 |

PROGRAMS IN THE DEPARTMENT OF SECONDARY/POST-SECONDARY EDUCATION

This department offers five graduate programs—four offering a Master of Education degree and one leading to a Master of Arts degree. The Master of Education degree is awarded in adult education, biology education, distributive education, and mathematics education; the Master of Arts degree is awarded in the English/English education program.

Generally, a student entering one of the graduate programs in the Department of Secondary/Post-Secondary Education is required to possess an appropriate certificate for public school teaching. Students who do not hold the appropriate certificate must complete all certification requirements through program planning of their graduate work. It is possible to take program courses and to engage in program experiences at the graduate level which meet both degree and certification requirements. Under such circumstances, graduate students may take additional undergraduate or graduate work for certification while pursuing the graduate degree program.

Adult Education

The adult education program is designed to provide professional growth experiences that will increase the skills and understandings needed to plan, implement, manage, and evaluate educational programs for adults. Opportunities exist to individually design programs of study with emphasis in the following areas: adult literacy training, continuing education, community college education, vocational-technical training, health sciences, allied health services, religious education, correctional institution education, educational gerontology, and educational media.

M.ED. PROGRAM IN ADULT EDUCATION

| | <i>Credits</i> |
|--|----------------|
| Foundations Core | 9 |
| Program Core | 15 |
| EDU 686 Adult Education Movement | 3 |
| EDU 687 The Adult Learner | 3 |
| EDU 688 Instructional Strategies for Adults | 3 |
| EDU 696 Adult Program Management and Evaluation | 3 |
| EDU 698 Adult Education Seminar | 3 |
| Electives | 12 |
| | <hr/> 36 |

Biology Education

The graduate program in biology education offers students additional knowledge and skills in developing varied methods, techniques, materials, and procedures for teaching biology, life science, and natural science. The program is offered in conjunction with the Department of Biology of the School of Arts and Sciences. Students may enroll who are, or wish to become, middle school or secondary school teachers of the biological sciences.

M.ED. PROGRAM IN BIOLOGY EDUCATION

| | <i>Credits</i> |
|--|----------------|
| Foundations Core | 3 |
| Program Core | 6/15 |
| EDU 681 Investigation and Trends in Teaching . | 3 |
| EDU 700 Internship | 3/9 |
| Electives | |
| Biology/Science Education | 9/18 |
| | <hr/> 33 |

Distributive Education

Because the teaching of distributive education often involves active participation of

community businesses and agency representatives, a primary objective of the graduate program in distributive education is the development of the student's ability to analyze community needs and plan, organize, promote, and administer adult distributive education programs.

Courses are geared to equip students with advanced instructional techniques designed to increase competency in the selection and use of media and teaching materials.

M.ED. PROGRAM IN DISTRIBUTIVE EDUCATION

| | <i>Credits</i> |
|---|----------------|
| Foundations Core | 9 |
| Program Core | 15 |
| EDU 640 Improvement of Instruction in Distributive Education | 3 |
| EDU 651 Topics in Education | 3 |
| EDU 649 Educational Media: Theory and Practice | 3 |
| OR | |
| EDU 653 Curriculum Construction | 3 |
| BUS 670 Concepts and Issues in Marketing .. | 3 |
| BUS 671 Advanced Marketing Strategy | 3 |
| OR | |
| BUS 665 Computer Language | 3 |
| Electives | 9 |
| | <hr/> 33 |

Mathematics Education

The mathematics education degree program is offered in conjunction with the Department of Mathematical Sciences in the School of Arts and Sciences. Students may enroll who are, or wish to become, middle school or secondary school teachers of mathematics.

The program provides experienced secondary school teachers of mathematics opportunities to extend their mathematical and teaching skills. It also affords those persons who have completed a baccalaureate degree in mathematics an opportunity to achieve professional education. The program allows for extended study in the various areas of mathematics, statistics, computer science, and professional education.

M.ED. PROGRAM IN MATHEMATICS EDUCATION

| | <i>Credits</i> |
|-------------------------------------|----------------|
| Foundations Core | 9 |
| Program Core | 18 |
| MAT 507-508 Analysis I and II | 6 |

| | |
|--|----|
| MAT 511 Applied Linear Algebra | 3 |
| MAT 521 Number Theory | 3 |
| EDU 681 Investigation and Trends in Teaching | 3 |
| Electives | 6 |
| | 33 |

English/English Education

In the Master of Arts degree program in English/English education there are four concentrations—one in community college teaching, one in English education, one in interdisciplinary humanities, and one in literature or literature and linguistics. This cooperative program is administered jointly by the Department of English, School of Arts and Sciences, and the Department of Secondary/Post-Secondary Education, School of Education. This graduate program provides maximum flexibility by allowing each student, in consultation with the graduate committee, to select the concentration and appropriate courses which are most relevant to scholarly and professional objectives. For example, the community college teaching and English education sequences are designed for those planning on teaching whereas the latter two are designed for those seeking intensive work in literature and/or linguistics far beyond the bachelor's degree level.

Students electing the English education option will most likely already hold initial certification. If not, students complete a program equivalent to the basic English certification program. Students may take appropriate course work in both departments.

Each program is individually designed and approved by an inter-departmental advisory committee.

Required courses for each option include:

- A. **Community College Option**
 - ENG/EDU 634-635 Internship
 - EDU 694 The Community College
- B. **Interdisciplinary Humanities Option**
 - No specifically required courses; program modified to fit student interests and needs.
- C. **English Education Option**
 - EDU 681 Investigations and Trends in teaching
 - EDU 700 Internship
- D. **Literature or Literature and Linguistics Option**
 - ENG 605 Introduction to Literary Scholarship

Vocational-Technical Education Certification. Courses are available that meet the Division of Vocational Education's requirement for supervisory positions in vocational education. Certification requirements for these positions were changed July 1, 1975. A Postgraduate Professional Certificate is mandatory for full certification. For additional information, interested individuals should contact the Department of Secondary/Post-Secondary Education at VCU.

PROGRAMS IN THE DEPARTMENT OF SPECIAL EDUCATION

This department offers graduate programs leading to a Master of Education degree in special education—mental retardation, special education—learning disabilities, and special education—emotional disturbance. Each of these programs is designed to train teachers to operate successfully in a variety of instructional settings in which services for exceptional children are now or may be provided in the future.

The basic programs leading to a Master of Education degree in mental retardation, learning disabilities, or emotional disturbance assume that the student holds an initial educational certificate. Students who are not certified may enter the program and receive both the master's degree and initial endorsement by taking additional courses. Successful completion of the degree programs leads to certification in mental retardation, learning disabilities, or emotional disturbance.

Within the Department of Special Education an alternative field-based sequence is available in which interns are placed with clinical instructors in a full-time special education program of an area rural county school system. In this year-long experience the intern participates firsthand in a variety of instructional settings including self-contained classrooms and resource rooms.

Mental Retardation

In the graduate program in mental retardation particular attention is focused on research and developments in the area of mental retardation. Varied theories and

experiences are provided as a means of fostering greater understanding of curriculum development, supervision, school administration, and the role of the school in our culture. The core of the preparation program in mental retardation centers around providing skills in the diagnostic—prescriptive area. This program will require approximately two years for completion.

M.ED. PROGRAM IN SPECIAL EDUCATION—MENTAL RETARDATION

| | <i>Credits</i> |
|---|----------------|
| Foundation Core | 9 |
| Program Core | 39 |
| Specific Endorsement Requirements (for any student not holding endorsement in mental retardation prior to entering the program.) | |
| EDU 551 Survey of Special Education | 3 |
| EDU 568 Psycho-Educational Diagnosis of Children | 3 |
| EDU 556 Characteristics of the Mentally Retarded | 3 |
| EDU 561 Teaching the Mentally Retarded | 3 |
| EDU 567 Language Arts for the Mentally Retarded | 3 |
| Specific Graduate Requirements | |
| EDU 656 Language Development of the Severely Handicapped | 3 |
| EDU 657 Curriculum Design for the Mentally Retarded | 3 |
| EDU 669 Administration and Supervision | 3 |
| EDU 700 Internship | 3 |
| EDU 701 Thesis or two additional courses at 600 level or above | 6 |
| Electives from Related Areas | 6 |
| (Select any two of the following) | |
| EDU 503 Guidance for Exceptional Children .. | 3 |
| EDU 538 Orientation to Speech Pathology | 3 |
| EDU 557 Characteristics of the Emotionally Disturbed | 3 |
| EDU 559 Teaching the Physically Handicapped | 3 |
| EDU 560 Teaching the Disadvantaged | 3 |
| EDU 562 Teaching the Emotionally Disturbed .. | 3 |
| EDU 563 Teaching Slow Learners | 3 |
| EDU 566 Remedial Reading | 3 |
| EDU 569 Teaching Remedial Arithmetic | 3 |
| EDU 570 Medical Aspects of Crippling Conditions | 3 |
| EDU 580 Human Interaction in Teaching | 3 |
| EDU 615 Curriculum Development | 3 |
| EDU 633 Aural Rehabilitation | 3 |
| EDU 638 Vocational and Occupational Adjustment of Exceptional Children | 3 |
| EDU 651 Topics in Education | 3 |
| EDU 655 Techniques of Remediating Specific Language Disabilities | 3 |
| EDU 661 Characteristics of Children with Learning Disabilities | 3 |
| EDU 673 Classroom Management of Disturbed Children | 3 |

| | |
|--|---|
| RCO 611 Principles of Methods and Techniques in Rehabilitation | 3 |
|--|---|

Learning Disabilities

The graduate program in learning disabilities has been designed to increase the competencies of teachers who work with children with learning disabilities. Professional skills emphasized in the program include the ability to recognize the educational and social problems of children with learning disabilities, to advance open-ended methodology, and to effectively consult with appropriate personnel in the development of suitable educational opportunities for children with learning disabilities.

M.ED. PROGRAM IN SPECIAL EDUCATION—LEARNING DISABILITIES

| | <i>Credits</i> |
|--|----------------|
| Foundations Core | 9 |
| Program Core | 30 |
| EDU 551 Survey of Special Education | 3 |
| EDU 568 Psycho-Educational Diagnosis of Children | 3 |
| PSY 607 Advanced Educational Psychology .. | 3 |
| OR | |
| PSY 601 Behavior Modification | 3 |
| EDU 661 Characteristics of Children with Learning Disabilities | 3 |
| EDU 668 Methods of Clinical Teaching | 3 |
| EDU 655 Techniques of Remediating Specific Language Disabilities | 3 |
| EDU 700 Internship | 6 |
| EDU 701 Thesis or two additional courses | 3 |
| Electives from Related Area | 3 |
| (Select any two of the following:) | |
| EDU 566 Remedial Reading | 3 |
| EDU 569 Teaching Remedial Arithmetic | 3 |
| PSY 507 Abnormal Psychology | 3 |
| EDU 556 Characteristics of the Mentally Retarded | 3 |
| EDU 557 Characteristics of the Emotionally Disturbed | 3 |
| EDU 558 Characteristics of the Physically Handicapped | 3 |
| EDU 580 Human Interaction in Teaching | 3 |
| EDU 651 Topics in Education | 3 |
| EDU 673 Classroom Management of Disturbed Children | 3 |
| EDU 676 Techniques of Counseling | 3 |
| EDU 669 Administration and Supervision | 3 |
| EDU 503 Guidance of the Exceptional Children .. | 3 |
| PSY 608 Individual Tests of Intelligence | 3 |
| PSY 613 Clinical Assessment I | 3 |
| EDU 559 Teaching of the Physically Handicapped | 3 |
| EDU 656 Language Development for Severely Handicapped Children | 3 |
| EDU 660 Research Methods in Education | 3 |

Emotional Disturbance

The master's degree program in emotional disturbance has been designed to give teachers the professional competencies needed to work in resource or crisis rooms, self-contained classrooms, or residential treatment settings. In developing these competencies the program focuses on designing specific teaching techniques for the diagnosis and remediation of learning problems caused by maldevelopment and personality. In addition, the program endeavors to build an awareness in the teacher of the significant role of parents and the influences of the total environment on the emotionally disturbed child.

**M.ED. PROGRAM IN SPECIAL
EDUCATION—EMOTIONAL DISTURBANCE**

| | <i>Credits</i> |
|---|----------------|
| Foundations Core | 9 |
| Program Core | 30 |
| EDU 551 Survey of Special Education | 3 |
| EDU 568 Psycho-Educational Diagnosis of Children | 3 |
| EDU 557 Characteristics of the Emotionally Disturbed | 3 |
| PSY 607 Advanced Educational Psychology OR | |
| PSY 602 Adolescent Growth and Development OR | 3 |
| EDU 602 Seminar in Child Growth and Development | 3 |
| EDU 566 Remedial Reading | 3 |
| EDU 673 Classroom Management of Disturbed Children | 3 |
| EDU 700 Internship | 6 |
| EDU 701 Thesis or two courses | 6 |
| Electives from Related Area | 6 |
| (Select any two of the following) | |
| EDU 558 Characteristics of the Physically Handicapped | 3 |
| EDU 668 Methods of Clinical Teaching | 3 |
| EDU 661 Characteristics of Children with Learning Disabilities | 3 |
| EDU 503 Guidance for the Exceptional Child | 3 |
| EDU 569 Teaching Remedial Arithmetic | 3 |
| EDU 532 Group and Interpersonal Relations | 3 |
| EDU 556 Characteristics of the Mentally Retarded | 3 |
| EDU 580 Human Interaction in Teaching | 3 |
| EDU 651 Topics in Education | 3 |
| EDU 660 Methods of Research | 3 |
| EDU 669 Administration and Supervision | 3 |
| EDU 655 Techniques of Remediating Specific Language Disabilities | 3 |
| EDU 676 Techniques of Counseling | 3 |
| PSY 507 Abnormal Psychology | 3 |
| PSY 527 Psychology of the Handicapped | 3 |
| PSY 528 Mental Hygiene in the Classroom | 3 |

| | | |
|---------|--|---|
| PSY 616 | Psychopathology | 3 |
| PSY 608 | Individual Tests of Intelligence | 3 |
| PSY 613 | Clinical Assessment I | 3 |
| PSY 614 | Clinical Assessment II | 3 |

39/45

**GRADUATE COURSES IN EDUCATION
(EDU)**

501 Pupil Evaluation. Semester course; 3 lecture hours. 3 credits. Principles and procedures of evaluating pupil growth in skills, attitudes, and understandings; construction and analysis of teacher-made tests; and administration of group tests. Interpretation of group and individual tests with emphasis on measurement problems of exceptional children.

502 Guidance. Semester course; 3 lecture hours. 3 credits. The introductory course for all graduate students in counselor education includes a survey of pupil personnel services and places special emphasis on those services associated with the guidance program. The course is designed for both elementary and secondary counselors and is a prerequisite to all other courses offered in the counselor education program.

503 Guidance for Exceptional Children. Semester course; 3 lecture hours. 3 credits. Interrelationships of home, school, and community agencies are explored with emphasis on the special education teacher as a guidance worker in the areas of educational, mental, social, and vocational development.

504 Film as a Teaching Medium. Semester course; 3 lecture hours. 3 credits. Exploring the film as a teaching resource. The course is designed to familiarize the students with thought-provoking films. Over 50 films will be presented. Especially helpful for the English teacher will be the exploration of the relationship between film and fiction. The humanities teacher will find a repertory of films on topics relating to historical and social questions useful.

505 Adolescent Medical and Social Problems. Semester course; 3 lecture hours. 3 credits. Seminar designed to acquaint those individuals working with an age group from 12 to 21 of the normal physiological and psychological development and medical and adjustment problems. This material will be presented by a series of lectures and case presentations with group participation. Topics will include drug abuse, under-achievers, sex education, emotional problems, constructive challenges for the adolescent, education for the adolescent, and the effect of these problems on families of the adolescent.

506 Psychology in the Classroom. Semester course; 3 lecture hours. 3 credits. An in-service course for classroom teachers. Based on special problems faced by the classroom teacher in testing, reading, speaking, slow learners, emotionally disturbed children, etc.

507 Educational Media: Utilization. Semester course;

3 lecture hours. 3 credits. Designed to acquaint teachers, library media specialists, and other educators with the media of educational communication and their use in the education setting.

509 TV in the Classroom. Semester course; 3 lecture hours. 3-6 credits. Video taped teaching-learning materials for specified learner outcomes will be designed and produced. Educational broadcasting and the use of commercial broadcast programs will be examined.

510 Sex Education for Teachers. Semester course; 3 lecture hours. 3 credits. Principles, methods, and content of sex education programs. Designed for teachers and counselors who are concerned with helping children and adolescents understand their sexuality and prepare for successful personal relationships with people.

511 Techniques of Coordination in Distributive Education. Semester course; 3 lecture hours. 3 credits. Developing cooperative relationship with resources in the community, selecting and developing training stations, placement of students, and assisting job adjustment.

514 Parent Child Relations. Semester course; 3 lecture hours. 3 credits. A methods course in parent-child communications and problem solving. Designed to enable parents and parent-educators to understand and relate more effectively with children.

515 Distributive Education Adult Programs. Semester course; 3 lecture hours. 3 credits. The place of continuing education in the total responsibilities of the teacher-coordinator; planning, organizing, promoting, administering, and evaluating the adult program; selection and training of adult instructors. Basic course for teacher-coordinators.

516 Early Childhood Procedures. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 300, 302. The application of principles and techniques of teaching in all areas of the curriculum for young children.

517 Teaching Elementary School Science. Semester course; 3 lecture hours. 3 credits. Emphasis is upon the methods and techniques used in teaching science in the elementary school. Background material, course content, and modern use of science will be stressed to broaden the teacher's understanding in this field.

518 Curriculum Planning in Elementary Science. Semester course; 3 lecture hours. 3 credits. Deals with factors that should be considered when planning a science curriculum. Includes both historical background and review of research.

522 Teaching Elementary School Mathematics. Semester course; 3 lecture hours. 3 credits. Methods and techniques used to teach mathematics in elementary school. Background material, course content, and modern uses of mathematics will be stressed to give the teacher a better understanding of the subject area.

525 Language Arts in Elementary School. Semester course; 3 lecture hours. 3 credits. Teaching techniques and materials for the developmental teaching of oral communication and written expression. Students will explore significant research and current literature related to content, organization, and instruction in language arts for the elementary school.

526 The Teaching of Reading. Semester course; 3 lecture hours. 3 credits. For experienced teachers and graduate students. An analysis of instrumental programs with emphasis on developmental reading. Review of research, curriculum issues, and instrumental procedures related to the program of reading in elementary schools.

528 Children's Literature. Semester course; 3 lecture hours. 3 credits. Criteria for selection of children's literature and study of children's reading interests. Analysis of significant research and literature with application to selected problems and evaluation of creative approaches and new materials in teaching children's literature.

529 Movement Education. Semester course; 3 lecture hours. 3 credits. For teachers of early childhood and elementary education. Emphasis given to the role of movement in the educational program, and movement theory and its applications for curriculum and learning. Major consideration will be given to motor development in young children and its implications for positive self-concepts.

530 Teaching in Urban Schools. Semester course; 3 lecture hours. 3 credits. For teachers and administrators in urban situations. Emphasis is given to the development of a variety of techniques for assessing the status of urban children and youth and in translating such information into programs.

531 Creative Teaching in the Elementary School. Semester course; 3 lecture hours. 3 credits. Designed for early childhood and elementary teachers and administrators. Diversified experiences drawn from various curriculum areas, including the arts. Focus on the creative process and the role of the teacher in fostering creativity.

532 Group and Interpersonal Relations. Semester course; 3 lecture hours. 3 credits. Utilization of small-group interaction as a vehicle to explore techniques and procedures common to human relations study. Focus on the teaching of interpersonal effectiveness, behavior objective identification, and developing of experiences relevant to leadership, communication skills, decision making, and development in effective or humanistic education.

533 Literature for Adolescents. Semester course; 3 lecture hours. 3 credits. This course is designed to acquaint prospective and practicing teachers of English and librarians with the nature, scope, and uses of adolescent literature. The student is exposed to reading materials designed to meet the varied needs and interests of adolescents in the American secondary schools.

534 Photography in Instruction. Semester course; 3-6 credits. Competence in using photography as a medium of instruction will be developed by gaining the necessary skill by designing and producing photographic materials for the classroom. Emphasis on the use of photography by school pupils as a means of self-expression.

535 Problems of Social Studies Instruction. Semester course; 3-6 credits. Prerequisite: permission of instructor and appropriate teaching experience. An in depth investigation into the nature of and alternatives to problems encountered by students while teaching. Developing and evaluating instructional alternatives will be stressed.

537 High School Curriculum. Semester course; 3 lecture hours. 3 credits. A study of the background and objectives of the modern high school; an examination of basic issues and current trends in curriculum construction and revision.

538 Orientation to Speech Pathology. Semester course; 3 lecture hours. 3 credits. An introduction to the history, scope, and trends in the field of speech pathology to include terminology, systems of classification, and concepts of etiology, diagnosis, and therapy.

543 Teaching High School Foreign Language. Semester course. 3 credits. To provide insight into effective secondary school foreign language instruction and to afford opportunities to the participants to upgrade their foreign language skills in listening comprehension and speaking. Attention will be given to materials, methods, and techniques. Time will be available to observe an experienced teacher using the methods and techniques taught.

544 The Middle School Curriculum. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 300 and 301 or PSY 301 or 302, or permission of instructor. The course will focus upon an inquiry into the curriculum decision-making process as it relates to the education of pre- and early adolescents in the middle school.

549 Developmental Reading in the Secondary School. Semester course; 3 lecture hours. 3 credits. For prospective and practicing secondary school teachers. The course explores theoretical concepts in learning and reading, and the translation of these concepts into specific teaching procedures for students in the secondary school.

550 Foreign Language Performance and Program Evaluation. Semester course. 3 credits. Prerequisite: permission of instructor. Assessing student's listening, speaking, reading, and writing skills and knowledge of culture. Evaluating the effectiveness of the school's foreign language programs and instruction.

551 Survey of Special Education. Semester course; 3 lecture hours. 3 credits. For majors and non-majors. An overview of the field of special education: identifying exceptional children, programs, facilities, literature,

services, and professional workers. A first course for special education majors.

554/MAT 554 Applications of Computers in the Teaching of Mathematics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: college calculus course or permission of instructor. Introduction to computers and programming using the language, BASIC. Applications of the computer in algebra, geometry, trigonometry, statistics, and calculus.

555 Geography in Social Studies Curriculum. Semester course; 3 lecture hours. 3 credits. A survey of geographic concepts and processes as a basis for examining curricular projects for and developing instructional approaches to geography as part of the social studies curriculum.

556 Characteristics of the Mentally Retarded. Semester course; 3 lecture hours. 3 credits. Nature and needs of the mentally retarded with emphasis upon the degrees of retardation, causes, and concomitant problems. Psychological bases for a suitable curriculum are also explored.

557 Characteristics of the Emotionally Disturbed. Semester course; 3 lecture hours. 3 credits. A study of the causes and resultant problems involved in emotional disturbances and the implications for educational management.

558 Characteristics of Physically Handicapped. Semester course. 3 credits. Prerequisite: EDU 451. Exploration of a variety of childhood health problems which have physical, psychological, social, and educational impact on children, their families, communities, and schools. Emphasis on understanding multiple handicapped children with implications for rehabilitation and teaching.

559 Teaching the Physically Handicapped. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 451/551, 458/558. Curriculum development, special materials, and classroom organization of multiple grade classes for physically handicapped children in day schools and clinical settings. Instructional procedures for the homebound child will be considered also.

560 Teaching the Disadvantaged. Semester course; 3 lecture hours. 3 credits. Exploration of the nature and needs of disadvantaged children with emphasis on implication for teaching.

561 Teaching the Mentally Retarded. Semester course; 3 lecture hours. 3 credits. Curriculum development and organization of activities for the mentally retarded at different maturational levels with specific attention to: program content, equipment, materials, and resources.

562 Teaching the Emotionally Disturbed. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 551 and 557. Curriculum development and organization of activities for the emotionally disturbed, including program content, equipment, materials, and resources.

563 Teaching Slow Learners. Semester course; 3 lecture hours. 3 credits. Curriculum development and organization of activities for slow learners at different maturational levels with specific attention to program content, materials, resources, and guidance.

564 Teaching the Gifted. Semester course; 3 lecture hours. 3 credits. Curriculum development and organization of activities for the gifted at different maturational levels with specific attention to program content, materials, resources, and guidance.

565 Young Children with Special Needs. Semester course; 1 or 3 hours. 1 or 3 credits. An overview of the nature and needs of young handicapped children, the rationale for early intervention and available resources. A television course for teachers, parents, and personnel in health professions with accompanying seminars.

566 Remedial Reading. Semester course; 3 lecture hours. 3 credits. Study of reading efficiency, diagnosis of reading difficulties of all age groups, administration and interpretation of individual reading diagnostic tests, and organization of reading instruction for individuals or small groups.

567 Language Arts for the Mentally Retarded. Semester course; 3 lecture hours. 3 credits. A study of the communication problems of the mentally retarded at different maturational levels and techniques for developing appropriate curricular emphasis in the total school program.

568 Psycho-Educational Diagnosis of Children. Semester course; 3 lecture hours. 3 credits. Study of tests and school-related procedures used in determining the nature and extent of learning deficits. Emphasis is placed on educational tools and their relationship to appropriate methodology for children with specific learning problems.

569 Teaching Remedial Arithmetic. Semester course; 3 lecture hours. 3 credits. For classroom and resource teachers working with children whose arithmetic achievement is significantly lower than grade-level placement or expectancy level; designed to attack learning problems in arithmetic at the child's level and to aid teachers in the sequential development of skills and concepts.

570 Medical Aspects of Crippling Conditions. Semester course; 3 lecture hours. 3 credits. Survey of medical conditions and special health problems as they relate to educational planning and programming. Etiology, prognosis, and effects of disabling conditions are discussed by medical specialists. Teacher-physician relationships are explored. Planning for both the child and his environment to meet his special needs is included.

571 Education of Self. Semester course; 3 lecture hours. 3 credits. Designed to explore personal concerns of identity, relationship, and power in a group setting; preparatory training for small group leadership and/or

teaching, utilizing humanistic education constructs, techniques, and procedures. Participants are assisted in identifying their concerns, discovering their patterns of emotional and behavioral responses, examining the consequences of these patterns, and generating and "trying on" alternative behaviors, thus examining awareness of strategies for learning about self and others.

572 Practicum. Semester course; 1-6 credits, repeatable to nine credits. Experience for advanced undergraduate or graduate students designed to study and integrate theory with practice; on-campus and field components supervised by university faculty. Includes seminars, conferences, selected readings, course projects, and other activities; designed and evaluated by student and supervisory faculty. Permission of offering department required.

575 Cross-Cultural Communications. Semester course; 3 lecture hours. 3 credits. An experimentally-oriented seminar for persons preparing for or in careers demanding close working relations with numbers of differing cultural-ethnic backgrounds, primarily white/black. Supported by out-of-class readings and exercises, the seminar will focus on attitudes, opinions, and self-perceptions operative within the seminar and on relating these to race relations' problems and change strategies within the larger society.

578 Creative Rhythmic Movement. Semester course; 3 lecture hours. 3 credits. A study of the importance and place of movement and music in a school program, and the uses of these media in teaching. Emphasis will be placed upon music as an accompaniment for movement and movement as an accompaniment to music. Attention will be given to analysis, improvisation, and creativity.

580 Human Interaction in Teaching. Semester course; 3 lecture hours. 3 credits. Case-oriented study of effective behavior and its influence on the classroom climate and learning. The content will emerge as the cases are presented and discussed by the participants.

589 Motor Development of Small Children. Semester course; 3 lecture hours. 3 credits. This course will deal with the development of small children, pre-school, kindergarten, and first-grade children, through physical education. Emphasis will be on the construction of a program of motor development for each of these three groups. The programs will be based on the research findings in such areas as *perceptual-motor development*, motor learning, educational psychology, and others. Those students and teachers in the fields of physical education, special education, and elementary education should find this course useful in developing programs of motor development for their students.

591 Teaching Social Studies in the Elementary School. Semester course; 3 lecture hours. 3 credits. Emphasis on methods and techniques for developing knowledge, skills, attitudes and values, and social action in the elementary grades. Attention given to curriculum

organization, current practices, and trends in elementary social studies.

592 Movement Physiology. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Physiological processes in relation to bodily exercises in every day life and sports activities. Physiological changes in the human organism due to movement. Investigation and application of research to physical education. Students must design, conduct, and complete a research study.

593 General Motor Ability Evaluation. Semester course; 2 lecture and 2 laboratory hours. 3 credits. The theory of the construction of evaluative instruments in physical education with emphasis on a critical examination of existing measurement devices. Emphasis on the use of measurement as a tool for improving physical education programs.

595 Reference and Bibliography. Semester course; 3 lecture hours. 3 credits. A study and evaluation of basic reference books and other bibliographical material most frequently used to answer reference questions in a library.

596 Library Organization. Semester course; 3 lecture hours. 3 credits. A study of fundamental methods, routines, and procedures in the acquisition, preparation, and circulation of books for a small library with special emphasis on the school library.

597 Cataloging and Classification. Semester course; 3 lecture hours. 3 credits. A basic course in cataloging the more common types of library materials. Practice in using the Dewey Classification subject headings, simple filing rules, and the use and adaptation of printed cards and cataloging aids.

599 Administration and Supervision of Physical Education. Semester course; 3 lecture hours. 3 credits. Guides for administrative and supervision policies and problems in physical education. Observation techniques, standards for judging instruction, the supervisory conference, cooperative supervision. Emphasis placed upon the common problems met by administrators and supervisors.

601 Philosophy of Education. Semester course; 3 lecture hours. 3 credits. A study of basic philosophies which have contributed to the present day educational system. Attention will be given to contemporary philosophies having an impact on planning for future programs.

602 Adolescent Growth and Development. Semester course; 3 lecture hours. 3 credits. Contemporary learning theories and their implications for teaching the adolescent learner. Emphasis will be placed on specific problems of adolescent growth and development as they relate to the learning situation.

603 Seminar in Child Growth and Development. Semester course; 3 lecture hours. 3 credits. Intensive study of child growth and development and application of this knowledge. Emphasis on current research.

604 Psycholinguistics and Language Arts Curriculum. Semester course; 3 lecture hours. 3 credits. An investigation of the psychological processes involved in language behavior and the relationship of these processes to the teaching of the basic communication skills.

605 Analysis and Correction of Classroom Reading Problems. Semester course; 3 lecture hours. 3 credits. An investigation of the problems arising from the wide range of reading abilities found within the typical classroom. Emphasis is placed upon corrective techniques within a classroom setting.

606 Review of Research. Semester course; 3 credits, repeatable to nine credits. Application of research findings to a specific educational area of study. Emphasis is on the consumption and utilization of research findings rather than the production of research evidence.

607 Social Foundations of Education. Semester course; 3 lecture hours. 3 credits. A study of significant social issues involved in the development and operation of schools and other educational institutions and processes.

608 History of Western Education. Semester course; 3 lecture hours. 3 credits. This course will explore the development of educational thought and practice from ancient times to the present, with special attention being given to the major issues confronting American education since its beginning.

609 Learning Strategies for the Classroom. Semester course; 3 lecture hours. 3 credits. A study of learning strategies used in classrooms including examination of concepts and issues related to the teaching-learning process. Materials and curriculum will be discussed in so far as they relate to principles of learning.

610 School and Community Relations. Semester course; 3 lecture hours. 3 credits. New concepts and specific techniques in school-community relations for teachers; involvement in educational planning; involvement in community planning; and an examination of evaluative projects for community use. Appropriate field-based experiences relating theory to practice will be included.

611 Theory and Practice in Social Studies. Semester course; 3 lecture hours. 3 credits. The underlying values, knowledge, and behavior essential to the conduct of our democratic society; the understandings, generalizations, and concepts drawn from the social sciences that are appropriate and meaningful to elementary pupils.

612 Education and the World's Future. Semester course; 3 lecture hours. 3 credits. An examination of education as it relates to future changes in other areas; population, energy, transportation, family, etc. The course will consist of readings dealing with educational change as well as a series of modules where students will engage in futures exercises, games, and projects.

613 Educational Change. Semester course; 3 credits. Developing the skills for planned change in education through the use of systematic inquiry, systems analysis, and systems approaches through systems concepts. Provides opportunities for students to develop "mini (classroom) changes" or "macro (school district) changes" through the use of systems.

614 Contemporary Educational Thought. Semester course; 3 lecture hours. 3 credits. This course will be devoted to a critical examination of educational ideas and programs emanating from contemporary writings on education. Students will be encouraged to develop critical skills of analysis in examining such writings utilizing historical and philosophical perspectives.

615 Curriculum Development. Semester course; 3 lecture hours. 3 credits. Current studies and proposals dealing with curriculum improvement and development for school personnel. Emphasis will be given to methods of involving professional and lay people in developing curriculum. Appropriate field-based experiences relating theory to practice will be included.

616 Curriculum Seminar. Semester course; 3 lecture hours. 3 credits. Aimed at developing curriculum theorizing skills and examination of the conflicting conceptions of curriculum. The formulation of definitions, classification of relevant information, inferring and predicting, development of models, and the formation of subtheories of curriculum.

617 Programs in Early Childhood Education. Semester course; 3 lecture hours. 3 credits. Study of programs in early childhood education. Focus on purposes, practices, and trends in early childhood education; translation of research findings into curriculum.

618 Mathematics Education in the Elementary School. Semester course; 3 lecture hours. 3 credits. Prerequisite: 422/522 or permission of instructor. A critical investigation of current and appropriate learning theories, instructional activities, programs, and manipulative materials applicable to mathematics education in the elementary school. The course assumes an overall knowledge of the more prominent techniques and materials used to teach mathematics in elementary school. Students will undertake in depth critical studies of alternative curricula, materials, and strategies based on experience, learning theory, and research findings.

619 Organization and Administration of Vocational-Technical Education. Semester course; 3 lecture hours. 3 credits. The analysis of administrative practices associated with the organization and administration of occupational programs at the secondary and post secondary levels. Specific areas of study involve leadership, personnel management and evaluation, financial management, public relations, and responsibility to superordinates and subordinates.

620 Public School Administration. Semester course; 3 lecture hours. 3 credits. An overview of the theory and practice of public school administration. Emphasis will

be placed on the roles of school boards, superintendents, principals, and supervisors at the elementary and secondary levels. Appropriate field-based experiences relating theory to practice.

621 School Law. Semester course; 3 lecture hours. 3 credits. Legal aspects of school administration which include constitutional and statutory provisions and court decisions.

622 Public School Finance. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing. A study of theories, policies, and expenditures of school funds. Special attention will be given to the practice of educational finance within the public school structure. The course will include such topics as the school budget, financial accounting, purchasing and supply problems, school equipment, and school insurance.

623 Seminar in Elementary School Administration. Semester course; 3 lecture hours. 3 credits. Prerequisite: consent of program chairman. Problems and issues in elementary school leadership. Major responsibilities of the elementary school principal. Enrollment limited to specialists in administration.

624 Mechanical Analysis of Human Motion. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Anatomical relationships dealing with arthrology, myology, neurology, and physical principles as applied to mechanical and kinesiological interpretation of normal, abnormal, and growth and development functions. Students must design, conduct, and complete a research study.

625 Current Issues in Physical Education. Semester course; 3 lecture hours. 3 credits. Recognition, discussion, and systematic analysis of controversial issues encountered in the conduct of physical education programs.

626 Seminar of Motor Learning Performance. Semester course; 3 lecture hours. 3 credits. Analysis of early patterns of behavior and the development of physical skills in childhood, adolescence, and adulthood. Consideration of differences in motor proficiency and factors affecting the acquisition of motor skills and concepts of motor learning with reference to the improvement of instructional practices.

628 School Personnel Administration. Semester course; 3 lecture hours. 3 credits. A study of the personnel function in educational organizations. Designed to explore techniques and problems of staff-personnel relationships in contemporary education.

629 Development of Research Techniques in Physical Education. Semester course; 3 lecture hours. 3 credits. Theory and techniques involved in the analysis and interpretation of data pertinent to research in physical education. Basic statistics applied to data encountered in physical education research. Student must design, conduct, and write a pilot study.

630 Supervision of Instruction. Semester course; 3

lecture hours. 3 credits. An advanced course in modern concepts of supervision on the elementary and secondary levels. Modern theories and practices of instruction will be examined. Appropriate field-based experiences relating theory to practice will be included.

631/ENG 631. Teaching English to Minority Groups. Semester course; 3 lecture hours. 3 credits. A study of the problems confronted when teaching English to students from minority groups, with attention given to the importance of non-standard dialects and of preserving cultural uniqueness. Some emphasis will be placed on the student for whom English is a second language.

632 Seminar in Dynamics of Reading Readiness. Semester course; 3 lecture hours. 3 credits. Intensive study of the emotional, social, intellectual, and physical factors involved in development of pre-reading skills. Emphasis on current research and teaching methodology.

633 Aural Rehabilitation. Semester course; 3 lecture hours. 3 credits. A detailed review in techniques for teaching lip reading and auditory training for the hearing-impaired child.

636/ENG 636 Teaching of Communication. Semester course; 3 lecture hours. 3 credits. A study of traditional and modern instructional strategies for teaching various forms of communication but with primary emphasis on the teaching of composition and secondary emphasis on reading and speech. The validity of strategies will be tested in the student's own writing.

637/ENG 637 Mass Media and the Teaching of English. Semester course; 3 lecture hours. 3 credits. A study of the use of the mass media in the English classroom. Emphasis will be on teaching methods designed to take advantage of the student's awareness of the media. Special attention will be given to television and film.

638 Vocational and Occupational Adjustment for Exceptional Children. Semester course; 3 lecture hours. 3 credits. An orientation to occupations, occupational information, and problems of adjustment for the handicapped with emphasis on the mentally handicapped. Emphasis is also placed upon implications of vocational and occupational adjustment problems for curriculum. Selected visitations to employing agencies are an integral part of the course.

639 Seminar in Secondary School Administration. Semester course; 3 lecture hours. 3 credits. Prerequisite: consent of program chairman. Problems and issues in secondary school leadership. Major responsibilities of the secondary school principal. Enrollment limited to specialists in administration.

640 Improvement of Instruction in Distributive Education. Semester course; 3 lecture hours. 3 credits. Prerequisite: DIE 405 or equivalent experience. Curriculum adaptation, use of appropriate methods, application to secondary school, and adult programs.

641 Independent Study. Semester course; 1-6 credits, repeatable to nine credits. An individual study of a specialized issue or problem in education. Determination of the amount of credit and permission of the instructor and department chairman must be procured prior to registration. Cannot be used in place of existing courses.

642 Materials and Methods in Project Instruction. Semester course; 3 lecture hours. 3 credits. Development of specific related vocational curriculum materials for non-cooperative distributive education classes at the secondary level.

644 Career Education Concepts. Semester course; 3 lecture hours. 3 credits. Designed to familiarize students with curriculum methods and procedures necessary to implement career education. Emphasis on roles of school personnel and community agencies in career education programs.

645 Public Relations Principles. Semester course; 2 lecture hours. 2 credits. Basic factors in communications are applied to the public relations responsibilities of the teacher-coordinator and supervisor. The message, the audience, the media, and personal effectiveness are included.

646 Media Center Development. Semester course; 3 lecture hours. 3 credits. The nature and scope of centralized educational media services for school districts, state systems, and other centralized services.

648 Preparation of Instructional Materials. Semester course; 3 lecture hours. 3 credits. Development of materials for the classroom with an emphasis on determining medium, designing the message, producing the material, and evaluating the effect. The design of these materials will be predicated on the learning modes and instructional styles.

649 Educational Media: Theory and Practice. Semester course; 3 lecture hours. 3 credits. An analysis of educational media with emphasis on the use of media in instructional design and development of teaching strategies.

650 Supervisory Leadership in Distributive Education. Semester course; 3 lecture hours. 3 credits. The role of the supervisor in distributive education; principles of creative supervision; organization for observation, guidance, and training of teacher-coordinators.

651 Topics in Education. Semester course; 1-3 credits, repeatable to nine credits. A course for the examination of a specialized issue, topic, readings, or problem in education. Check with department for specific prerequisites.

652 Reading Instruction in the Content Areas. Semester course; 3 lecture hours, 3 credits. Emphasis of the course is on preparing teachers to apply skills and methods of reading instruction to content areas in elementary and secondary school curricula. The course

will include theoretical bases and methodology for incorporating reading skills within content areas of instruction.

653 Curriculum Construction. Semester course; 3-6 credits. Prerequisite: consent of advisor. Independent study; curriculum problems; organization and preparation of teaching units. Offered to individual students or on a conference or a seminar basis, depending on student needs and nature of study.

654 World of Work Seminars. 1-3 lecture hours. Variable credit per seminar, maximum nine credits. Repeatable field seminar designed to familiarize school personnel with current information necessary to assist students in making appropriate and enlightened career choices. Developed in cooperation with business, industry, military, and other facets of our economy to explore career options, includes classroom as well as field experiences.

655 Techniques of Remediating Specific Language Disabilities. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 566 and 568. Advanced course in techniques for the remediation of specific language disabilities with emphasis on reading problems. Includes interpretation of diagnostic reports and the presentation and evaluation of a variety of specific remedial methodologies.

656 Language Development for Severely Handicapped Children. Semester course. 3 credits. Prerequisite: permission of instructor. An intensive study of the development sequence of language acquisition and strategies for language intervention with the severe and profound mentally retarded and other severely handicapped children.

657 Curriculum Design for Mentally Retarded. Semester course; 3 credits. Prerequisites: EDU 461/561 and 467/567. An examination of issues and strategies required in selecting and developing curriculum for the mentally retarded. Emphasis on four components: the content and behavior from resources used in teaching particular topics, the instructional design and procedures, and ways of managing instruction for the mentally retarded.

658 Evaluation of Instruction. Semester course; 3 hours. 3 credits. Designed to develop skills and knowledge for the evaluation of instructional personnel and educational programs. Identification of appropriate criteria, procedures for collecting information, and evaluation processes for the purpose of aiding educational personnel involved in staff development including staff assignment, promotion, and tenure decisions. Introduction to program evaluation procedures, basic evaluation concepts, and processes appropriate for utilization as programs are initiated and implemented.

659 History and Philosophy of Vocational-Technical Education. Semester course; 3 lecture hours. 3 credits. An historical review of factors which influenced the

development of vocational-technical education, including its social, economic, and philosophical foundations. An analysis will be made of certain world-of-work assumptions as well as significant legislation which have given direction and focus to vocational education in the United States.

660 Research Methods in Education. 3 lecture hours. 3 credits. Designed to develop an understanding of and skills in a research approach to educational decision-making. Emphasizes basic research concepts and different research procedures and processes appropriate for use in educational institutions. Includes developing skills in critical analysis of research studies and drawing implications for educational programs. Analyzes the assumptions, uses, and limitations of various educational research designs. Explores methodological and ethical issues in educational research. Each student either conducts or designs a study in his area of educational specialization.

661 Characteristics of Children with Learning Disabilities. Semester course; 3 lecture hours. 3 credits. The nature and needs of children with learning disabilities with emphasis upon psychological and behavioral characteristics as related to educational needs.

663 Curriculum Development in Vocational-Technical Education. Semester course; 3 lecture hours. 3 credits. A study of the elements of curriculum development (objectives, learning experiences, outcomes) and staff leadership requirements needed for the identification, development, implementation, and evaluation of occupational programs. Emphasis will be given to vocational advisory committees, methods of instruction, developing competencies, and meeting labor market needs.

665 Supervision of Instruction in Vocational-Technical Education. Semester course; 3 lecture hours. 3 credits. A study of the principles of supervision and their application to occupational programs. Emphasis is given to administrative responsibilities associated with teacher selection, growth, and evaluation; the guidance and counseling program; curriculum improvement; in-service education; and educational leadership.

666 Procedures in Early Childhood Education. Semester course; 3 lecture hours. 3 credits. An examination and analysis of teaching procedures in early childhood with specific attention given to research and actual practice in the school environment.

667 Exercise Physiology: Instrumentation and Techniques. Semester course; 1 lecture and 4 laboratory hours. 3 credits. Designed to integrate practical and theoretical aspects of exercise physiology; experiences will benefit the physical educator, the coach, the athletic trainer, and the physiologist. Units include setting up and operating a movement physiology laboratory and techniques of open-circuit spirometry, closed-circuit spirometry, blood chemistry, and anthropometrics.

668 Methods of Clinical Teaching. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 468, 568, and 661. Specific methodologies for teaching children with identified precognitive and cognitive learning disabilities using developmental, remedial, and compensatory approaches.

669 Administration and Supervision. Semester course; 3 lecture hours. 3 credits. Practices and problems in providing school programs for handicapped and gifted children in both urban and rural communities are discussed.

672 Advanced Practicum. Semester course. 1-6 credits, repeatable to nine credits. Prerequisite: successful completion of one semester of practicum or equivalent and permission of department. Experiences for graduate students designed to study and integrate theory with practice; on-campus and field components supervised by university faculty. Includes seminars, conferences, selected readings, course projects, and other activities; designed and evaluated by student and supervisory faculty.

673 Classroom Management of Disturbed Children. Semester course; 3 lecture hours. 3 credits. Discussion of method and techniques of managing classroom behavior. Open only to advanced graduate students in the area of emotionally disturbed.

675 Guidance in the Elementary School. Semester course; 3 lecture hours. 3 credits. An examination of basic counseling and guidance approaches for working with children. Emphasis will be given the developmental role of the elementary school counselor. Specific methods for individual counseling, group counseling, and classroom guidance will be discussed and practiced.

676 Techniques of Counseling. Semester course; 3 lecture hours. 3 credits. A study of techniques used in counseling with students, including interviewing and assisting students in gaining insight into personal problems and in making educational and vocational choices. Attention is given to theories of counseling and of personality.

677 Organization and Administration of Guidance Services. Semester course; 3 lecture hours. 3 credits. A study of organizational principles and procedures necessary for the effective administration of guidance services. Consideration is given to procedures used in establishing guidance programs or modifying existing ones (or both), including the study of various community resources that can contribute to more effective guidance services.

678 Career Information and Exploration. Semester course; 3 lecture hours. 3 credits. Designed to provide the potential counselor with an understanding of theoretical approaches to career development grades K-adult. Emphasis will be given the relationship between counselor and student(s) in the career exploration and decision-making process. A review of occupational, educational, and personal-social information resources will be made.

679 Educational Measurement and Evaluation. Semester course; 3 lecture hours. 3 credits. An examination of individual and group tests will be made. Particular attention will be given to tests of intelligence, aptitude, achievement, interest, and personality. Emphasis will be placed on the helping relationship in the client interview and interpretation.

680 Advanced Counseling Techniques. Semester course; 3 lecture hours. 3 credits. An advanced review of counseling approaches and recent developments in individual and group counseling. Emphasis on the utilization of systematic human relations training concepts and techniques.

681 Investigations and Trends in Teaching. Semester course; 3 credits, repeatable to nine credits. A course designed to familiarize teachers and prospective teachers with recent trends and developments in course content, strategies for organizing learning experiences, and in presenting course material in their classrooms. Laboratory experience may be incorporated where appropriate.

682 Curriculum Development in Science Education. Semester course. 1-4 credits. Designed for science teachers in the middle and secondary school; will include teacher-developed curriculum innovations which emphasize the initiation of formal and informal classroom work on current scientific trends, as well as special formal classroom and laboratory programs such as BSCS Biology, ISCS, IPS, and other new or developing programs.

683 Designing Modular Instructional Packages. Semester course; 3 lecture hours. 3 credits. A study of the theory underlying simulation and instructional packages and its application in the instructional process. Modular instructional packages will be developed with emphasis on their proper use as an instructional strategy.

684 Community College Organization and Administration. Semester course. 3 credits. Organizational patterns, administrative theories and practices as applied to community college education.

685 Community College Instructional Staff Development and Supervision. Semester course; 3 credits. Study and evaluation of faculty supervision and professional growth needs. Emphasis is placed upon the identification and analysis of the duties, responsibilities, and factors involved in the supervision of instructional programs and on designing staff development activities at the community college level.

686 The Adult Education Movement. Semester course; 3 lecture hours. 3 credits. The historical development of the adult education movement will be traced. Important events, laws, and personalities will be studied with emphasis on the philosophical foundations and social imperatives inherent in the concept of life-long learning. The effect of adult education history on the present will be analyzed with particular emphasis on future trends.

687 The Adult Learner. Semester course; 3 lecture hours. 3 credits. The physiological, psychological, and socio-economic characteristics of adults will be studied. Particular emphasis will be placed on the differences between socio-economic groups and the changes that occur with aging. The special characteristics of the disadvantaged and deprived will be analyzed. Relevant learning theories and their implications for adult education will be explored.

688 Instructional Strategies for Adults. Semester course; 3 lecture hours. 3 credits. Prerequisite: EDU 687. Systematic curriculum development models and specific teaching techniques that are effective with adults will be studied. Emphasis will be placed on individualizing instruction and the use of multi-media strategies. The specific concepts of media centers, learning centers, and programmed learning will be explored. Special attention will be given to techniques for the disadvantaged and undereducated.

689 The Community College Student. Semester course; 3 credits. A study of the community college student as a developing individual and as a learner. Assessment and evaluation of the special problems of the community college student and the institutional opportunities for humanizing instruction and student services will be emphasized.

690 Group Procedures in Counseling and Guidance. Semester course; 3 lecture hours. 3 credits. Introduction to the group process, group counseling, and group guidance contrasted and defined; basically theoretical.

691 Student Personnel Services in Higher Education. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 676, 677. A course which focuses attention on administration decision making and problem solving in the area of student personnel services. Emphasizes the case study approach; students will participate in various administrative experiments requiring the employment of administrative theory and practice.

692 Education and Aging. Semester course; 3 lecture hours. 3 credits. A study of the educational implications of the aging process on the design, development delivery and evaluation of programs for older adults. Educational characteristics of adults during later maturity (55 and older) and various types of programs available will be examined.

693 Legal and Fiscal Aspects of Community College Education. Semester course; 3 credits. The legal framework of community college education. Federal, state, and local statutory and constitutional provisions bearing on administrative relationships with faculty and students. Funding sources, policies, and procedures.

694 The Community College, Its History and Development. Semester course; 3 lecture hours. 3 credits. Educational philosophy and its implementation will be

reviewed to find the relationship and justification for the establishment of two year institutions of higher education. Particular emphasis will be placed on the evolution of the comprehensive community college.

695 Guidance Seminar. Semester course; 3 lecture hours. 3 credits. Prerequisite: open to advanced students with permission of instructor. An advanced course designed to provide a means for intensive study of guidance services. The approach will be to integrate the knowledge and skills from the various disciplines as they relate to the work of the counselor.

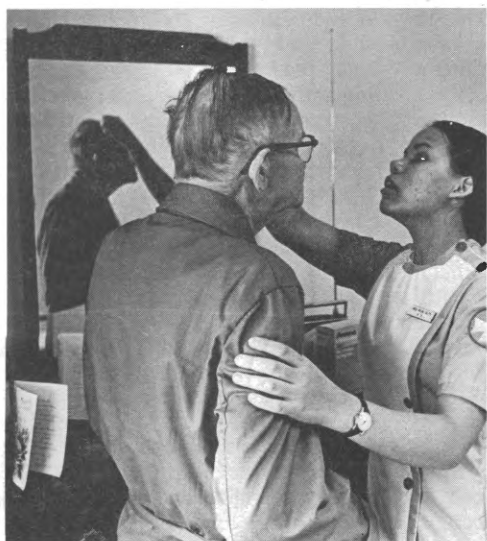
696 Adult Program Management and Evaluation. Semester course; 3 lecture hours. 3 credits. Various administrative theories and patterns of management appropriate for adult programs as well as management principles and techniques will be studied. Emphasis will be placed on program promotion, staff recruitment, in-service training, student personnel services, and program evaluation. The various evaluation models will be studied. Formative evaluation will be stressed to improve instructional strategies, validate student diagnosis and placement, and to restate program objectives.

697 The Community School. Semester course; 3 lecture hours. 3 credits. The development and utilization of the community school concept will be examined. Community-wide use of school facilities and the involvement of the total community in the learning process will be studied. Emphasis will be placed on the physical plant design, organizational structure, staffing, and curriculum of the community school. The utilization of the community school to implement "life-long learning" will be stressed.

698 Adult Education Seminar. Semester course; 3 lecture hours. 3 credits. Restricted to second semester graduate students. Current problems in adult education are identified and discussed. Each student will review and report on research that is related to the problems identified. Emphasis will be on the synthesis and application of skills and knowledge gained in current and prior graduate courses.

700 Internship. Semester course; 1-6 credits, repeatable to nine credits. On-site planned experiences for advanced graduate students designed to extend professional competencies; carried out in a setting, under supervision of an approved professional. Plan of work designed by intern with prior approval of the offering department. Internship activities monitored and evaluated by university faculty. State certification or equivalent may be required for some internships. Permission of department.

701 Thesis. Semester course; 6 credits. A research study of a topic or problem approved by the student's supervisory committee and completed in accordance with acceptable standards for thesis writing.



School of Nursing

HISTORY

The School of Nursing originated in 1893 as part of the University College of Medicine. Since then, the educational program has evolved from a basic diploma program to multiple programs at the baccalaureate and master's degree levels. In addition, three nurse practitioner programs, an active research program, continuing education opportunities, and a cooperative outreach program in graduate education with the University of Virginia School of Nursing have been included.

The School of Nursing takes pride in its long history of service to the profession of nursing and its record of accomplishments. Many "firsts" are listed in the official archives. Through high standards of quality education and performance in the practice of nursing, the School of Nursing continues to be a leader in nursing education in Virginia.

PHILOSOPHY OF NURSING

Nursing is a human service involved with man's state of health and man's need to sustain and nurture life; avoid or recover from disease, or impairment of function, or cope with their effects.

Nursing is concerned with health outcomes which have lifetime, short term, or

momentary relevance for individuals, families, groups, and communities. These outcomes range from optimal health to a peaceful death.

Nursing encompasses a broad range of activities directed at facilitating the efforts of individuals or groups in adapting within their own unique environments to achieve their maximum health potential. These nursing activities include assisting clients in the performance of health related behaviors which they would choose to perform unaided if they were capable of so doing. These health related behaviors include recognizing existent or potential threats to optimal health; establishing health goals; considering alternative approaches to meeting health goals; recognizing possible consequences of decisions affecting health; developing patterns of living and strategies of adaptation coordinate with changing environments; achieving health goals and evaluating outcomes.

Nursing respects the right of people to make choices about their own health needs when those choices do not infringe upon the health of the general population. The values directing nursing's goals must be made clear to recipients of services and to those who provide related services. Nursing shares responsibility with other disciplines for the

health goals affecting society and the future of man. Consequently, nursing works with other groups in developing policy affecting health and designing of relevant health care systems.

The practice of nursing requires a variety of cognitive, functional, and inter-personal competencies. These skills are complex behaviors which are interrelated and are rooted in knowledge which include descriptive, explanatory, and predictive strategies. It is the responsibility of nursing to identify and develop the knowledge and principles which guide action to produce desired results or meet specific goals and assure that this knowledge base is adequately tested and incorporated into practice.

The nursing process is the method by which knowledge is translated into meaningful service.

The nurse assumes responsibility for decisions in respect to nursing and, when indicated, collaborates with other professionals in developing and implementing health care plans. Accountability to clients for professional services is important as well as accountability within the system in which the nurse functions. In order to maintain and enhance its services, the profession of nursing must develop educational programs which prepare practitioners of nursing to meet needs of clients; develop systems of delivery of services which emphasize the needs of clients and encourage full utilization of nursing knowledge and skill; examine nursing practices; and through experimentation, investigation, and research develop more effective and efficient practices; develop strategies for predicting future health needs of clients and the role of nursing in meeting those needs; develop strategies to assure continuing effective and efficient practice by individual practitioners of nursing; and develop strategies which encourage collaboration with other disciplines in accomplishing health goals.

PROGRAMS

Baccalaureate and master's degree programs are offered through the School of Nursing. Continuing education offerings are numerous and are published separately. Information may be obtained by writing to

the Director, Continuing Education Program, at the address given below.

Complete information regarding curriculum and admissions may be obtained by writing to the director of the appropriate program, Virginia Commonwealth University, Box 638, MCV Station, Richmond, Virginia 23298.

FACILITIES AND RESOURCES

The faculty and administrative offices of the school are housed in the Nursing Education Building, 1220 East Broad Street. Additionally, this building has two nursing skills laboratories and four classrooms equipped with a full range of audiovisual equipment. Both graduate and undergraduate courses are scheduled also in the classrooms and laboratories of Sanger Hall, the principal building of the Schools of Medicine and Basic Sciences.

The clinical laboratories for nursing courses are conducted in the MCV Hospitals and in numerous other hospitals and health agencies in the area. Hospitals used on a regular basis are St. Mary's, Retreat, and the Veteran's Administration Hospital. Mental health facilities include Central State Hospital, Virginia Treatment Center for Children, Educational Therapy Center, Commonwealth Psychiatric Center, Crisis Intervention Center, and other facilities such as Richmond City Jail and Bon Air Learning Center for Girls. Facilities of the State Department for Public Health are used in Richmond, Petersburg, and Chesterfield County. The Instructional Visiting Nurses Association provides learning opportunities for a number of students as well. Students are given a diversity of experiences in hospital and community-oriented nursing.

NURSING ALUMNI ASSOCIATION

All graduates of the Medical College of Virginia School of Nursing, former St. Philip School of Nursing, and the Richmond Professional Institute nursing program are eligible for membership in the Nursing Alumni Association of the Medical College of Virginia of Virginia Commonwealth University. The purposes of the association are to support and promote the School of Nursing. The association also provides

support within the university to promote and encourage the development of nursing services of the highest possible quality, stimulate professional growth, and promote cooperation and fellowship among nursing alumni and students.

HONORS AND AWARDS

Nursing Honor Society. In the fall of 1976, the first members were inducted into the Medical College of Virginia School of Nursing Honor Society. Individuals proposed for membership must have demonstrated superior scholastic achievement, evidence of professional leadership potential, and/or marked achievement in the field of nursing.

Master of Science Program

This program prepares graduates for advanced nursing practice as clinical specialists, nurse practitioners, teachers, or supervisors in specialized areas of nursing.

At the graduate level, the process of nursing and the role of the nurse as they relate to health and illness are explored in depth. Emphasis is placed on the selection and use of scientific knowledge, theory, and concepts basic to nursing practice. The use of systematic methodologies for research and implementation as well as the integration of theory, practice, and research are stressed.

Graduate students in the School of Nursing study the present and future forces which influence groups or individuals in attempting to maintain and achieve health as well as the actual and potential roles of nursing.

Students choose their specific area of study and are encouraged to define an area or areas of special interest for more intensive study. Courses are chosen accordingly.

AREAS OF STUDY

| Major | Minor |
|--------------------------|--|
| Medical-Surgical Nursing | Clinical Specialization Teaching |
| | Psychiatric-Mental Health Clinical Specialization Teaching |
| Maternity Nursing | Psychiatric-Mental Health |

| | |
|-----------------------------------|--|
| Pediatric Nursing | Clinical Specialization Teaching |
| Psychiatric-Mental Health Nursing | Psychiatric-Mental Health Clinical Specialization Teaching |
| Community Health Nursing | Teaching |
| Family Nurse Practitioner | Supervision |

ACCREDITATION

The Master of Science program in nursing is accredited by the Department of Baccalaureate and Higher Degree Programs of the National League for Nursing.

SCHOLARSHIPS, GRANTS, LOANS

Funds available are allocated as soon as feasible after being appropriated. It is therefore advisable to apply for admission early—even one year in advance of admission date.

Application for financial assistance must be filed for all forms of financial assistance including traineeships. Applications may be obtained from the Director of Financial Aid, Virginia Commonwealth University, MCV Station, Box 244, Richmond, Virginia 23298.

ADMISSION REQUIREMENTS

Bachelor of Science degree in nursing from NLN accredited school or equivalent program to MCV/VCU School of Nursing with upper division major in nursing.

Graduate Record Examination scores (Scholastic Aptitude Test only).

Current license to practice as a registered nurse in Virginia.

Foreign applicants who do not use English as their natural language must have a minimum TOFL score of 550.

Preference will be given to applicants with a minimum of one year of experience within the last five years.

There are additional requirements for admission to the family nurse practitioner program. For information, contact the Chairman, Department of Community Health Nursing.

For information about admission to pending practitioner programs under maternal-

child nursing, contact, Chairman, Department of Maternal-Child Nursing.

Applications for admission can be obtained from the Director of Admissions M.C.V. Station, Box 163 Richmond, Virginia 23298.

PROGRAM REQUIREMENTS

Major

Nursing 575—Contemporary Nursing—3 credits

Advanced Clinical Courses

Support Courses—1-2 courses with from 5-7 credits related to the major

Minor

Nursing Practicum—5 credits

Support Courses—3 courses related to the practicum

Research

Nursing 611—Methods of Research

Nursing 612—Research Seminar

Thesis 630—6 credits

Specific advanced clinical courses and support courses will be determined by the major department. Undergraduate statistics is required prior to admission or statistics must be completed before graduation.

Requirements for community health nursing—family nurse practitioner will be found on page 166 Community Health Nursing.

TRANSFER CREDIT

The student may arrange to take 12 of the required credits at another institution and transfer these to MCV/VCU. It is imperative to obtain approval for such courses before enrolling in them. Acceptance toward degree requirements of credits earned prior to admission is at the discretion of the School of Nursing and will not exceed 12 credits.

GRADUATION REQUIREMENTS

To be a candidate for the degree of Master of Science in Nursing, the student must be recommended by the faculty and must:

1. Complete all requirements for the prescribed curriculum.

2. Earn at least a "B" in all nursing courses.

3. Earn at least a cumulative average of "B" in all work presented for graduation.

4. Present a satisfactory defense of the thesis at oral examination.

5. Submit five or more copies of the thesis as required, prepared according to the standards approved by the Graduate Council, to the student's graduate committee in final form no later than May 1 before commencement exercises at which the student expects to receive the degree. These copies are to be submitted in temporary binders. Following acceptance of the thesis and passing of the final examination, it shall be the responsibility of the candidate to have five copies of the thesis suitably bound.

The degree will be granted only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the bound copies of the thesis. Degrees are not granted in absentia unless specific written request is made to the dean and permission granted by her.

ACADEMIC REQUIREMENTS

1. All full-time graduate students are expected to register for a minimum of 12 semester hour credits per semester, including research.

2. The grading system shall be that indicated on page 18. No student may proceed in the program with a GPA less than 3.0 or with a grade of less than "B" in any nursing course without the approval of the assistant dean for the graduate program.

3. A time limit of five calendar years, beginning at the time of first registration is placed on work to be credited toward the degree.

4. Each student conducts a research study under the guidance of an advisor. This study is reported in a thesis, prepared in acceptable form and style.

5. The thesis is examined by the student's graduate committee members acting as moderators. An additional moderator may be appointed from the faculty of VCU.

6. Each moderator shall receive a copy of the candidate's thesis and shall decide on its acceptability. The moderators may confer with each other before making their decision.

7. On approval of the thesis, the student

appears for a final oral examination by the advisor and the thesis moderators. The final examination shall be open to the faculty, and its time and place, together with the candidate's name, department, and title of the thesis, shall be announced at least 10 days in advance.

8. A favorable vote of the graduate committee with no more than one negative vote shall be required to pass the oral examination. All moderators will attend the examination and will cast a vote.

9. The candidate, having fulfilled all the requirements for the Master of Science degree, is recommended for the degree.

SPECIAL STUDENTS

Students who are not applicants for the degree may be admitted to individual courses. Permission to register for courses is at the discretion of the School of Nursing.

PROGRAMS AND CLINICAL FACILITIES

Community Health Nursing

The major in community health nursing is organized to include theoretical knowledge in the physical, behavioral, and sociocultural factors that influence human behavior in health and illness. The advanced clinical content in nursing includes opportunities to apply theories and modalities of treatment in family nursing and in meeting health needs of populations and defined community groups. Emphasis is on the identification and practice of innovative roles in nursing within the context of a changing health care system. Related courses in other fields basic to the specialty are selected for their contribution to the major. Students may select a sequence of courses in disciplines related to an area of special interest within the broad scope of community health nursing and develop this area in their clinical practice and research. Graduate study in education, administration, family nurse practice, and special areas of interest is shared with graduate students from fields other than nursing.

Family Nurse Practitioner. Student enrolled in the family nurse practitioner major

will complete the following courses in addition to the requirements for the community health nursing major: Nur 502, 503, 504, 505, and graduate physiology. Students who select the family nurse practitioner program are eligible to apply for certification by the Virginia Boards of Nursing and Medicine.

Resources and Facilities. A variety of facilities and supporting personnel are available for a choice of clinical experiences, ranging from a free youth clinic to county and state health departments. A rural or urban setting may be selected in which to identify and evaluate theories and interventions relevant in advanced community health nursing. Practice in the functional area of the student's choice includes: opportunities to work with members of the university faculty, or members of the administrative staff of a voluntary or official health agency, or as an advanced community health nurse practitioner in the area of special interest. Clinical experiences for family nurse practice include practice in ambulatory settings with physician/nurse practitioner preceptors and a semester of practice in collaboration with a primary care physician in the community. In addition to joint association with the School of Medicine for preparation of nurse practitioners, there is opportunity for close association with the Center for Community Health, which offers interdisciplinary community health experiences.

Maternal-Child Nursing

The major in maternal-child nursing provides an eclectic approach to the study of childbearing, childrearing, and the growth years of the life cycle. It includes emphasis on the family as a socializing unit in which each member interacts with and affects every other member in his/her achievement of developmental tasks and responses to situational crises. The nurse's role in assessing, monitoring, maintaining, and promoting healthy adaptation in resolving these crises is stressed.

In order to achieve an effective level of nursing intervention in maternal-child nursing in a variety of settings the program is organized to include theoretical knowledge

in physical behavior and socio-cultural factors that influence human responses along the health-illness continuum. Emphasis is also placed on increased self understanding and skillful synthesis of theory in clinical practice areas and research.

Students may elect functional role preparation as a teacher, or clinical specialist. (In addition a nurse practitioner option is pending). A psychiatric-mental Health minor is also available.

Resources and Facilities. The facilities available for teaching maternal-child nursing at the graduate level permit broad exploration and selected depth study in a wide variety of settings.

Additional facilities available to the School of Nursing include: the hospitals' outpatient department, city and private hospitals, nursery schools, social service agencies, homes for unwed mothers, public health departments, and the Instructive Visiting Nurse Association, private physicians' offices, Consultation and Evaluation Clinic, Virginia Treatment Center, Cerebral Palsy Center, Genetic Counseling within the Division of Pediatric Endocrinology of the Department of Pediatrics at MCV/VCU, Bureau of Crippled Children Clinics (supported by Children's Bureau of Department of Health, Education and Welfare) including: pediatric surgery, neurosurgery, urology, orthopedic, eye and ear, burn surgery, cystic fibrosis and congenital heart.

Medical-Surgical Nursing

MCV Hospitals' patients are drawn from both urban and rural areas of Virginia. The complexity of their illnesses provides a wealth of experiences for the student of medical-surgical nursing. Opportunity to move out into the community, as well as study within the hospital complex, offers the student breadth as well as depth of preparation.

The focus of the graduate program in medical-surgical nursing is on both physiological and psychosocial problems. The advanced nursing courses concentrate on a variety of health-illness situations which individuals experience. Students select their own clinics and learning situa-

tions and have the opportunity to engage in independent study in each advanced course.

Students electing the teaching option have the opportunity to participate with undergraduate faculty in planning, organizing, implementing, and evaluating undergraduate student experiences.

Actual practice in classroom and clinical laboratory teaching is provided under guidance. A micro-teaching session affords opportunity for student self-evaluation and improvement.

Students electing clinical specialization may select a focus from among the subspecialties in medical-surgical nursing for in depth study and concentrated clinical practice. Practicing clinical specialists from MCV Hospitals are available for consultation which affords the student the option to work in concert with those in actual practice.

Psychiatric-Mental Health Nursing

The student achieves a measure of expertise toward meeting both professional and personal goals through a program of education which is individually planned. Practice in clinical settings is selected on the basis of goals. Individual supervision is appropriate to the particular clinical situation. The student has access to teams of multidisciplinary experts with whom to work in planning and implementing care for individual clients and their families and for persons and/or groups in the community. Opportunities for students to participate in seminars, conferences, and informal sessions with scholars in residence are ongoing activities within the School of Nursing.

Resources and Facilities. The campuses of VCU and the metropolitan Richmond area offer graduate students in nursing the gamut of resources and facilities for optimal learning and clinical experience. Students are encouraged to identify areas of special interest and to study specific clinical nursing problems.

Clinical facilities include the inpatient services and clinics of MCV Hospitals, Saint Mary's Hospital, and Central State Hospital. Central State Hospital is located in Petersburg, 30 miles south of Richmond.

All of these institutions are accredited by the Joint Commission on Accreditation of Hospitals.

Other resources on the MCV Campus include:

The Virginia Treatment Center for Children, a 40-bed psychiatric hospital for children and the Division of Child Psychiatry of MCV/VCU. MCV/VCU Alcoholic Unit, housing the Bureau of Alcoholic Studies and Rehabilitation, which involves a cooperative relationship between the State Health Department, MCV/VCU, and the University of Virginia. Its purpose is to provide service, training, and investigation in the care of alcoholic clients.

Other community resources include:

Mental Aftercare Program, a joint effort involving the State Department of Health and the Department of Mental Hygiene and Hospitals.

Monroe Mental Health Clinic, an open-door clinic for city residents and for clients discharged from Eastern State Hospital.

Fan Free Clinic, a walk-in facility in the Fan District.

Resources within the Commonwealth of Virginia include: Eastern State Hospital in Dunbar, Riverside General Hospital in Newport News, and Tidewater Mental Health Clinic in Williamsburg; CHAP House, a Community Hospital Action program sponsored by the state and associated with Central State Hospital.

GRADUATE COURSES IN NURSING (NUR)

The descriptions provided here are for the courses in the major in nursing and are restricted to students in this major. Please see other sections in this bulletin for courses in other departments; viz., biology and genetics, biometry, physiology, and public health science.

Courses in related fields and cognate areas which are offered at the Academic Campus are described under the offerings of the various schools e.g., business, education, arts and sciences, and social work. Lecture hours may be used as seminar in which case the hours are doubled.

500 Advanced Community Health Nursing. 2 lecture and 8 clinical hours. 6 credits. II. Prerequisite: NUR 575. Advanced concepts and theories basic to the study of individuals and families in the community. Advanced nursing practice in examining selected conceptual frameworks for family analysis and nursing intervention is provided through intensive work with families encountering problems on an illness-wellness continuum.

501 Advanced Community Health Nursing. 2 lecture and 8 clinical hours. 6 credits. II. Prerequisite: NUR 500, 575. Theories and concepts basic to health needs of populations and of change strategies related to community organization and action for health. Clinical practice with families and selected community health planning groups focuses on the role of the nurse as a change agent.

502 Assessment in Family Nurse Practice. 7 lecture and 12 clinical hours. 10 credits. Focuses on development of assessment component of the family nurse practitioner role. Didactic content taught by a multidiscipline faculty covers common physical, mental, and developmental problems presented by children and adults in ambulatory settings. Supervised practice covers history taking, physical examinations, screening and diagnostic procedures, and interpretation of selected laboratory findings.

503 Clinical Judgment in Family Nurse Practice. 7 lecture and 12 clinical hours. 10 credits. II. Prerequisite: didactic content taught by a multidiscipline faculty continues to increase students' competency in identifying health-illness status of children and adults in ambulatory settings. Supervised practice covers increasing responsibility for accuracy and breadth of assessment and clinical judgments. Practice includes experiences with family nursing where advanced theory on family dynamics, counseling, teaching, and coordination as practiced by the specialist in community health nursing are synthesized with the assessment and clinical judgment skills of the nurse practitioner.

504 Management of Common Health Problems of Children and Adults in Family Nurse Practice. 1 lecture and 20 clinical hours. 6 credits. II. Prerequisite: NUR 503. Focuses on development of management component of the family nurse practitioner role by assigning students to a physician delivering primary care. The student develops a small caseload of families to manage, to assist family units in developing positive health behavior, to evaluate responses to management plans, and to experience the degree of dependency-independency required to carry out the role functions of the family nurse practitioner. Seminars cover practice-oriented issues and experiences in role development in practice.

505 Nurse Practitioner Practicum. 1 lecture and 8 clinical hours. 3 credits. I, II. Prerequisite: NUR 500, 501, or concurrent; FNP course sequence. Concentrated study and clinical practice in an area of interest. This may be a clinical experience only or one which

integrates the teaching, supervisory, or consultant component of the practitioner role.

513 Practicum in Supervision. 1 lecture and 8 clinical hours. 5 credits. I. Prerequisite: third semester standing. Philosophy, purposes, and elements of the social role of the contemporary supervisor as a developer of human resources and as a functioning member of organizational structures taught through selected supervised practice.

520 Advanced Medical-Surgical Nursing. 2 lecture and 8 clinical hours. 6 credits. I, II. Prerequisite: NUR 575, PIO 401, or equivalent. Theory and practice directed toward nursing assessment and interventions needed by clients and their families.

521 Advanced Medical-Surgical Nursing. 2 lecture and 8 clinical hours. 6 credits. I. Prerequisite: NUR 575, PIO 401, or equivalent. Theory and practice directed toward nursing interventions and resources needed by clients and their families. Factors affecting the implementation of nursing interventions will be incorporated.

531 Maternal Child Nursing Concepts. 2 lecture hours. 2 credits. Prerequisite or co-requisite: NUR 575. In depth study of key concepts in the childbearing and childrearing years which have implications for nursing action in both maternity nursing and the nursing of children. Emphasis is placed on childbearing and childrearing as a continuum within which health oriented crisis situations occur in varying frequencies. These crisis situations have potentially disorganizing effects on the family unit. Appropriate nursing action to assist the family in reestablishing equilibrium will be covered.

532 Advanced Maternal-Infant Nursing I. 1 lecture and 8 clinical hours. 5 credits. II. Prerequisite: NUR 575 and 531. Theory and practice are directed toward the concepts that the care of the mother and her newborn is a continuous integrated process, centered on the family in interaction with the physical and social environment.

533 Advanced Maternal-Infant Nursing II. 1 lecture and 8 clinical hours. 5 credits. I. Prerequisite: NUR 575 and 531. Theory and practice are directed toward study of normal and abnormal physiological and psychosocial patterns associated with intrapartal and postpartal periods of pregnancy. Emphasizes assessing, planning, implementing, and evaluating comprehensive nursing care.

542 Advanced Nursing of Children I. 1 lecture and 8 clinical hours. 5 credits. II. Prerequisite: NUR 575 and 531. An eclectic approach to the nursing care of infants, toddlers, and preschool children. The family is included as the primary socializing agent of the child. Relationships among family members and with outside support systems are analyzed. Emphasis is placed on attaining and maintaining health and preventing illness. Behaviors typically expressed during periods of stress and adaptation are included and interventions are discussed.

The laboratory provides opportunities for applying the nursing process in the care of children and families.

543 Advanced Nursing of Children II. 1 lecture and 8 clinical hours. 5 credits. Prerequisite: NUR 575 and 531. An eclectic approach to the nursing care of children through the study of the important theories and ideas related to child development and health care needs and the application of this information in the nursing care of school age children and adolescents.

551 Advanced Psychiatric-Mental Health Nursing. 1 lecture and 2 clinical hours. 2 credits. I. Prerequisite or co-requisite: NUR 575. Focuses on interpersonal interaction based on a theory of human values in which concepts such as identity, acceptance and esteem, communication, autonomy, and authenticity are stressed. Theory related to systems analysis used to study the milieu. Content provides basis for the care of individual patients and use of the nursing process within the therapeutic community.

552 Advanced Psychiatric-Mental Health Nursing. 2 lecture and 8 clinical hours. 8 credits. II. Prerequisite: NUR 551. A continuation of the study of human values and of specific psychiatric nursing concepts such as anxiety and fear. Provides theory dealing with the study of families and family therapy. Clinical practicum provides additional depth in the care of an individual patient and his family and in the care of groups of patients. Practicum may cut across clinical and/or agency boundaries according to individual interest and needs of the student.

553 Advanced Psychiatric-Mental Health Nursing. 2 lecture and 8 clinical hours. 8 credits. I. Prerequisite: NUR 551, 552. Focuses on the synthesis of previously learned psychiatric nursing theory and material from related areas in the assessment of community dynamics and potentials as they affect the mental health of persons within the community. Focus of the clinical practicum is upon community living.

555 Group Seminar. 1 lecture hour. 1 credit. I. Series of group seminars designed to promote theoretical understanding of group dynamics and psychotherapies in terms of objectives and techniques. Opportunities provided for personal growth through sensitivity training. First seminar focuses on experiential learnings of group and self dynamics.

556 Group Seminar. 1 lecture hour. 1 credit. II. Prerequisite: consent. Designed to provide theoretical understanding of such group dynamics as process, content, pressure, and feedback.

557 Group Seminar. 1 lecture hour. 1 credit. I. Prerequisite: consent. Devoted to objectives and techniques involved in the various group psychotherapies, including such groups as supportive, guidance, insight-oriented, encounter, marathon, sensitivity training, couples, and family therapy.

571 Teaching Practicum. 1 lecture and 8 clinical

hours. 5 credits. I, II. Prerequisite: six credit hours education courses and 10 credit hours nursing courses. Concentrated study in classroom and clinical teaching content. Supervised practice teaching is provided with undergraduate nursing students under the direction of master teachers.

573 Selected Clinical Practicum. 1 lecture and 8 clinical hours. 5 credits. Prerequisite: methods of research, statistics, 10 credits in nursing courses. Concentrated study and clinical practicum directed toward clinical specialist preparation in the major area of interest.

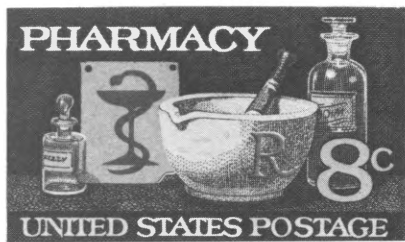
575 Contemporary Nursing. 3 lecture hours. 3 credits. I, S. Prerequisite: BSN or equivalent degree. A core course designed to provide knowledge of theories, practices, and procedures common to nursing prior to specialization. All graduate students will participate in seminars course in conjunction with lectures. It is required prior to any course in the area of specialization with the exception of NUR 551 which is taught concurrently.

577 Special Topics in Nursing. 1 to 3 credits. I, II, S. Prerequisite: 10 semester hours in the major independent study of specific topics in nursing covered briefly in the more general courses.

611 Methods of Research. 3 lecture hours. 3 credits. Prerequisite: statistics preferred. Focus is on the methods and processes of systematic investigation; critical analysis of studies; and relationships among theory, research, and practice leading to the development of a thesis proposal.

612 Research Seminar in Nursing. 1 lecture hour. 1 credit. II. Prerequisite: NUR 611. Examines practical problems in the implementation of nursing research.

630 Thesis. 6 credits. Required of all students, the master's thesis constitutes carefully planned and executed research under the supervision of an advisor and in conjunction with a thesis committee. The student writes and presents the required thesis in the area of clinical nursing interest.



School of Pharmacy

HISTORY

When the Medical College of Virginia opened its doors on November 5, 1838, pharmacy was taught as a part of the medical course. Although the General Assembly of Virginia amended the charter in 1879 to permit the institution to confer the degree of graduate of pharmacy upon properly qualified individuals, college records indicate that there were two graduates in pharmacy as early as 1876.

The School of Pharmacy of MCV (now a division of Virginia Commonwealth University) was officially established in 1898; the University College of Medicine had a school of pharmacy when it opened in 1893. The two-year curriculum gave way to a three-year program in 1925, and in 1932 the school required four years of college work and a B.S. degree was awarded. In 1960 the program lengthened to the current five-year course leading to a Bachelor of Science in Pharmacy degree. In 1975, authority was granted to offer to selected students a six-year program leading to the Doctor of Pharmacy degree.

The authority to award graduate degrees in the pharmaceutical sciences was granted by the Graduate Council in 1952. Departments in the school currently direct work leading to the M.S. and Ph.D. degrees in

pharmaceutical chemistry and pharmaceutics. These programs provide the preparation and research experience for academic and industrial careers.

FACILITIES

The School of Pharmacy is located in McGuire Hall on the Medical College of Virginia Campus. It shares this building with the Department of Pharmacology of the School of Basic Sciences. Location in a major health science center provides excellent opportunities for interdisciplinary research, and access to clinical facilities. Graduate students in the School of Pharmacy may take graduate courses in chemistry or computer science at the Academic Campus. The school is well equipped for graduate research.

ADMISSION REQUIREMENTS

The requirements for *admission* to graduate programs at the Medical College of Virginia Campus of Virginia Commonwealth University are described in the School of Basic Sciences section of this bulletin (p. 83). Additional requirements concerning undergraduate education are imposed upon applicants to graduate programs in the School of Pharmacy.

Admission to graduate programs in

pharmaceutical/medicinal chemistry is open to students having a bachelor's degree in pharmacy, chemistry, or related science. Admission to graduate programs in pharmaceuticals normally requires a bachelor's degree in pharmacy. However, applicants with degrees in chemistry, biology, or engineering may qualify in specific programs.

Acceptance is based upon undergraduate performance, satisfactory scores on the Graduate Record Examination, letters of recommendation, and, where applicable, TOEFL scores.

FINANCIAL ASSISTANCE

Graduate students in the School of Pharmacy may receive support via teaching assistantships, research assistantships, or fellowships. The American Foundation for Pharmaceutical Education provides support to eligible applicants for graduate study in the pharmaceutical sciences. All students, regardless of the level or the source of support, are required, as a part of their graduate education, to obtain teaching experience in lecture and laboratory.

THE STUDENT'S ADVISOR AND GRADUATE COMMITTEE

The departmental graduate coordinator will advise the student until a permanent advisor has been chosen. During their first semester, new graduate students are required to arrange interviews with each graduate faculty member of their major department to discuss research projects. Each student will select an advisor and a research project, and report the selection to the appropriate departmental committee. The advisor will arrange for the appointment of the student's graduate committee. The responsibilities of the advisor and the graduate committee are described in the School of Basic Sciences section of this bulletin, page 83.

REQUIREMENTS FOR GRADUATE DEGREES

Graduate students in the School of Pharmacy must satisfy the degree requirements described in the School of Basic Sciences section of this bulletin (p. 84). In some cases

more stringent requirements are imposed and these are described in detail in graduate student rules which are issued to all students.

All graduate students are required to attend seminars in their own department and are encouraged to attend seminars of interest in other departments. Students are required to present seminars satisfactory to the faculty. Normally, students in pharmaceutical chemistry will present one seminar per year, while those in pharmaceuticals will present a seminar each semester.

The oral comprehensive examination for Ph.D. candidates in the School of Pharmacy is based upon an original research proposal which must be prepared by the student and distributed to the faculty in advance of the examination.

Graduate students are expected to devote maximum effort to the pursuit of their education. During normal working hours, graduate students are expected to be working on their research projects when they are not in class. Graduate students who are progressing satisfactorily may be granted permission by the chairman of their department to take outside employment during evenings or weekends.

PROGRAMS IN PHARMACEUTICAL/MEDICINAL CHEMISTRY

The Department of Pharmaceutical Chemistry offers programs leading to the M.S. and Ph.D. degrees in pharmaceutical chemistry. Students may select programs emphasizing organic medicinal chemistry, pharmaceutical analysis, or physical pharmaceutical chemistry.

All students will complete the following core courses along with those elective courses deemed necessary to the student's program by the student's advisor.

| | |
|----------------------------------|----------------|
| Organic Pharmaceutical Chemistry | PHC 402 |
| Advanced Medicinal Chemistry | PHC 506 or 607 |
| Research Techniques | PHC 526 |
| Seminar (each semester) | PHC 590 |
| Biochemistry | BIC 503-4 |
| Pharmacology I | PMC 536 |

Advanced Organic Chemistry I

CHE 504

At the present time the research interests of the department include: Synthesis and biological evaluation of new compounds, determination of relationships between chemical structure and biological activity, studies on modes of drug action, rational design of new drugs, bacterial growth kinetics in the presence of antibiotics. Drug classes under investigation include analgesics, anticoagulants, anti-malarials, antimetabolites, antineoplastics, anti-sickling agents, hypocholesteremics, hypoglycemics, hypotensives, neurotransmitters, peptide antibiotics, psychotropic agents, reversible and irreversible enzyme inhibitors, and urolithiasis inhibitors.

PROGRAMS IN PHARMACEUTICS

The Department of Pharmacy and Pharmaceutics offers programs leading to the M.S. and Ph.D. degrees in pharmaceutics. Advanced degrees in pharmaceutics do not provide eligibility for licensure as a pharmacist. Persons interested in advanced professional programs in pharmacy are referred to the School of Pharmacy section of the Medical College of Virginia Campus bulletin where the Doctor of Pharmacy (Pharm.D.) program is described.

Graduate students majoring in pharmaceutics may select programs emphasizing biopharmaceutics, pharmacokinetics, physical pharmacy, or pharmaceutical technology. At the present time, the research interests of the department include: bioavailability studies, factors governing release of drugs from solid dosage forms, micellar nature of drug solutions, drug-protein binding interactions, effects of saturated and competitive metabolism on pharmacokinetics, clinical pharmacokinetics including computer modeling of pharmacokinetics in man and use of individual pharmacokinetic parameters in optimizing dosage regimens, development of analytical methodology for drugs in biological fluids, and isolation of new drugs from natural sources.

ORGANIZATIONS

Rho Chi, the national honorary phar-

maceutical society has a chapter at MCV. Membership in this society is open to graduate students in the School of Pharmacy who meet the society's scholastic standards.

The Society of Sigma Xi Chapter at VCU brings in outstanding scholars for its lecture program. Graduate students who have demonstrated a marked aptitude for research in the field of pure or applied science may be elected to associate membership in the society.

Professional associations which meet locally include the Virginia Pharmaceutical Association and the Virginia Section of the American Chemical Society.

Pharmacy fraternities with chapters at MCV are Kappa Epsilon, Kappa Psi, and Phi Delta Chi.

Department of Pharmaceutical Chemistry (PHC)

402 Organic Pharmaceutical Chemistry. 3 lecture hours. 3 credits. II. Prerequisite: PHC 302. A study of synthetic and natural organic compounds of medicinal and pharmaceutical interest with emphasis being placed on physical and chemical properties and on the relationships between chemical structure and pharmacological activity.

503 Organic Pharmaceutical Chemistry. 3 lecture hours. 3 credits. I. Prerequisite: PHC 402. A continuation of PHC 402.

506 Advanced Medicinal Chemistry I. 3 lecture hours. 3 credits. II. Prerequisite: PHC 503. A study of pharmacodynamics, theories relating to drug action, and the general principles of drug design.

511 Physical Chemistry. 3 lecture hours. 3 credits. I. Corequisite: calculus. A first course in physical chemistry with emphasis on those topics most relevant to the health sciences, including electrolyte solution theory, kinetics, and the physical chemistry of macromolecules.

512 Physical Chemistry. 3 lecture hours. 3 credits. II. Prerequisite: PHC 511. A continuation of PHC 511.

513 Experimental Physical Chemistry. 4 laboratory hours. 2 credits. I. Corequisite: PHC 511. The laboratory work includes a number of basic experiments in physical chemistry along with techniques and procedures of special interest to students in the health sciences.

514 Experimental Physical Chemistry. 4 laboratory hours. 2 credits. II. Prerequisite: PHC 512. A continuation of PHC 513.

521 Drug Assaying. 2 lecture and 4 laboratory hours. 4

credits. I. A consideration of the chemical assaying of U.S.P. and N.F. preparations, including synthetic and naturally occurring drugs.

526 Research Techniques in Pharmaceutical Chemistry. 0-2 lecture and 2-8 laboratory hours. 1-4 credits. II. The theory and application of classical and instrumental techniques used in pharmaceutical research are presented.

590 Pharmaceutical Chemistry Seminar. 1 lecture hour. 1 credit. I, II. In addition to reports that are presented by students, staff, and visiting lecturers, current problems and developments in pharmaceutical and medicinal chemistry are discussed.

607 Advanced Medicinal Chemistry II. 3 lecture hours. 3 credits. I. Prerequisite: PHC 506. A study of the structure-activity relationships and mode of action of selected group of drugs.

622 Stereochemistry. 2 lecture hours. 2 credits. II. A study of the number and kinds of stereoisomers of organic compounds, the differences in chemical and physical properties between stereoisomers.

632 Heterocyclic Chemistry. 3 lecture hours. 3 credits. II. A series of lectures covering a number of the more important heterocyclic systems.

650 Special Topics in Pharmaceutical Chemistry. 1-4 lecture hours. 1-4 credits. I, II. Lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as a part of the research training.

681 The Ultracentrifuge. 2 lecture hours. 2 credits. I. The optical systems of the ultracentrifuge are discussed, as well as the applications of the ultracentrifuge in the study of the properties of macromolecules such as proteins and nucleic acids.

690 Research in Pharmaceutical Chemistry. 1-15 credits. I, II. Research leading to the M.S. or Ph.D. degree.

Other graduate courses suitable for credit towards an advanced degree are listed in the Department of Chemistry course descriptions.

Department of Pharmacy and Pharmaceutics (PHA)

531 Pharmaceutical Product Development. 2 lecture and 4 laboratory hours. 4 credits. I. A study of the pharmaceutical, physico-chemical, biopharmaceutical, and engineering principles and technology underlying the development of various pharmaceutical dosage forms for hospitals and industry.

532 Pharmaceutical Product Development. 2 lecture and 4 laboratory hours. 4 credits. II. A continuation of PHA 531.

590 Pharmacy Seminar. 1 lecture hour. 1 credit. I, II. Required of all graduate students in pharmacy.

601 Advanced Pharmaceutical Product Development. 3 lecture and 4-10 laboratory hours. 5-8 credits. I. An advanced study of the pharmaceutical, physicochemical, and engineering principles and technology underlying the development of various pharmaceutical dosage forms.

602 Advanced Pharmaceutical Product Development. 3 lecture and 4-10 laboratory hours. 5-8 credits. II. A continuation of PHA 601.

605 Legal Aspects of Drug Development and Evaluation. 3 lecture hours. 3 credits. I. A study of the requirements of the regulatory agencies in the development of a "new drug" in accordance with the IND and NDA process through all phases of laboratory and clinical testing, including pertinent statistics. The current and probable future requirements of "good manufacturing practice" will be treated.

603 Clinical Radiopharmacy. 1 lecture and 2 laboratory hours. 2 credits. I. Students receive training in the safe use, preparation, calibration, quality control, and clinical diagnostic use of current and investigational radiopharmaceuticals in nuclear medicine practice. Emphasis will be placed on obtaining patient medication histories for the evaluation of agents capable of in vivo and in vitro radioisotopic test modification.

611 Advanced Physical Pharmacy. 3 lecture and 0-4 laboratory hours. 3-5 credits. I. Detailed application of physicochemical principles to areas of pharmaceutical interest, including colloids, rheology, phase rule, complexation, kinetics, drug stability, and micromeritics.

612 Advanced Physical Pharmacy. 3 lecture hours. 0-4 laboratory hours. 3-5 credits. II. A continuation of PHA 611.

621 Advanced Biopharmaceutics. 2 lecture hours. 2 credits. I. Study at the advanced level of the relationships between the physicochemical properties of a drug and dosage form and the absorption, distribution, elimination, and pharmacological effects of the drug. Current theory and methodology involved in solving problems at the research level are emphasized.

622 Clinical Pharmacokinetics. 2 lecture and 0-2 laboratory hours. 2-3 credits. II. The application of current pharmacokinetic theory to clinical problems involved in optimizing and monitoring drug use in patients. Particular attention is given to adjustment of drug dosage in individual patients with impaired drug elimination due to renal and hepatic dysfunction.

624 Pharmacokinetics. 2 lecture hours. 2 credits. II. An advanced treatment of the kinetics of drug absorption, distribution and elimination utilizing mathematical models, analog, and digital computers for analysis of linear and non-linear biologic systems.

625 Biopharmaceutic Assay. 2 lecture and 2-6 laboratory hours. 3-5 credits. I. Theory and laboratory practice for systematic quantitative and qualitative

analysis of drugs and metabolites in body fluids and tissues. Emphasis is on modern analytical methodology used in pharmacokinetic and biopharmaceutic studies. (Joint offering with the Department of Pharmaceutical Chemistry.)

626 Biopharmaceutic Assay. 2 lecture and 6-10 laboratory hours. 5-7 credits. II. A continuation of PHA 625 with particular emphasis on the identification of drug metabolites.

631 Advanced Hospital Pharmacy Management. 3 lecture hours. 3 credits. I. An in depth study of contemporary hospital pharmacy problems and practice. Case studies in hospitals will be used for illustration.

632 Advanced Hospital Pharmacy Management. 3 lecture hours. 3 credits. II. The subject matter discussed is an extension of PHA 631 with stress placed upon managerial abilities in handling various levels of personnel in the hospital.

650 Special Topics in Pharmacy. 1-4 lecture hours. 1-4 credits. I. Presentation of subject matter is by lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as part of the research training.

690 Research in Pharmacy. 1-15 credits. Research leading to the M.S., Pharm.D., or Ph.D. degree.



School of Social Work

HISTORY AND LOCATION

The School of Social Work was established in 1917 as the Richmond School of Social Work and Public Health, which later became the first unit of Richmond Professional Institute. The school developed initially in response to community manpower needs to work with World War I veterans and their social and health problems. Subsequent development of the school has expanded into all areas of human service.

With the creation of Virginia Commonwealth University in 1968, the School of Social Work was established as a unit of the university's Academic Campus, located in a residential section of central Richmond. The Raleigh Building at 326 North Harrison Street houses faculty offices, a student lounge, and the Stuart J. Gluck Memorial Library. The School of Social Work is the oldest school of its kind in the South.

The School of Social Work offers two degree programs. The program leading to the Bachelor of Social Work degree prepares generalist social workers for beginning practice in social work and for graduate social work study. The Master of Social Work degree prepares specialists who function in leadership roles as administrators, caseworkers, group workers, and planners. Students are trained to be social service

specialists in the mental health/mental retardation system, the health field, the adult and juvenile justice system, and the family/public social service system.

The city of Richmond provides a unique setting for social work education. The population of the metropolitan area is approximately 500,000 persons. As a community, Richmond is in a period of exciting economic and social growth, permitting varied opportunities for community study and field instruction. As the capital of Virginia, educational opportunities are available in many state government agencies concerned with the development and provision of social services. Proximity to Washington, D.C., allows additional field placements with either federal agencies or with national organizations. The existence of a large number of social agencies in the area permits students to participate in the delivery and development of a *wide range* of social services.

PROFESSION OF SOCIAL WORK

Social work is a profession that assists people in the prevention and resolution of problems of human living. It provides services to those who seek more satisfying and productive lives, and helps communities to organize services to contribute

to the welfare of all citizens. In addition to these traditional concerns, social work is increasingly involved in the administration of direct human service programs, in the development of public policy, in research programs, and in teaching. Due to the expansion of social welfare programs in recent years, qualified social workers are in demand in every area of professional practice.

In order to achieve the profession's goals of human well-being and social justice, social workers provide a variety of services in many different organizations. Social work is usually practiced in social welfare agencies and in social work departments at host settings. Social workers are needed to work with mentally ill, emotionally disturbed, delinquent, mentally retarded, physically ill, handicapped, and economically and socially deprived children and adults. They are sought for service in schools, courts, hospitals, clinics, and in agencies that seek to detect and prevent delinquency and child neglect.

Community centers, psychiatric and general hospitals, and service centers for the aged also seek qualified social workers and offer varied career opportunities. Equally challenging opportunities exist in public and private agencies that deal with problems of housing and urban renewal, public health, community mental health, social welfare planning and fund-raising, race relations, and many other concerns that become especially acute both in the changing neighborhoods of large cities and in depressed rural and industrial areas.

Social work practice is designed to enrich the quality of life by enabling individuals, groups, and communities to achieve their greatest potential development. The overall aim of the School of Social Work at Virginia Commonwealth University is to provide professional education to meet these needs.

EDUCATIONAL PROGRAMS

The School of Social Work offers a four-year curriculum leading to the Bachelor of Social Work degree and a two-year graduate professional curriculum leading to a Master of Social Work degree. Special programs are available to selected

groups of graduate students, and provide opportunities for meeting degree requirements or for developing special emphasis as part of the degree requirements. Included are a part-time program; advanced standing program for selected graduates of accredited undergraduate programs in social work; a social work educator program; certification as a school social worker program; a cooperative program with the Presbyterian School of Christian Education; as well as institutes, continuing education offerings, and workshops.

BACCALAUREATE SOCIAL WORK PROGRAM

The School of Social Work offers a four-year program leading to a Bachelor of Social Work degree. The objectives of the baccalaureate program are to prepare students for beginning social work practice and graduate social work education. A description of the baccalaureate program may be found in the Academic Campus Bulletin of Virginia Commonwealth University. A copy of the bulletin may be obtained by writing to the Office of Admissions, Virginia Commonwealth University, 920 West Franklin Street, Richmond, Virginia 23284.

MASTER OF SOCIAL WORK PROGRAM OBJECTIVES

At Virginia Commonwealth University, a graduate professional curriculum accredited by the Council on Social Work Education and leading to the Master of Social Work degree, is offered through the School of Social Work. Changing manpower needs in the social work field indicate that students at the graduate level need to be prepared as specialists in a particular field of social service delivery. The recent expansion of knowledge in the human sciences as well as the complexity of social service delivery systems also require that students concentrate in depth in one area to achieve the knowledge and skill necessary to practice in these intricate systems.

Upon graduation, students are expected to demonstrate:

1. Competence in one method (social casework, social group work, social planning, or social work administra-

tion) of social work practice, beginning knowledge and skill in a second related method practice, and knowledge and appreciation of all methods of practice.

2. Specialized knowledge and skill in provision of services within a major system of social welfare (the adult and juvenile justice system, health system, family service and welfare system, or mental health and mental retardation system). This includes:
 - a. Knowledge of the system and its components, including mission, organization, professional activities, and problems.
 - b. Knowledge of the characteristics and behavior of the target populations toward whom services are directed.
 - c. Knowledge of historical development and of legal, political, and policy issues within the system.
 - d. Knowledge of how the system interfaces with other social welfare systems and with social work.
3. Knowledge of the evolution of the profession, sensitivity to critical professional issues; and commitment to its purposes, values, and ethics.
4. Ability to assess problems confronted in practice through scientifically grounded evaluation techniques.
5. Commitment and ability to participate in the development of strategies and policies to ameliorate social problems.
6. Understanding of the interdependence of professional disciplines and skill in collaboration with others to achieve social welfare objectives.
7. Self-awareness; self-discipline; and accountability to clients, the profession, and society.

ADMISSION TO MASTER'S DEGREE PROGRAMS

Students interested in full-time study are admitted to the M.S.W. program in the fall each year. Since space in each class is limited, it is advisable for applicants to apply as early as possible during the academic year *preceding* anticipated enrollment.

Admission Requirements

Each applicant for admission must hold a bachelor's degree from a college or university approved by the appropriate regional accrediting body. Neither the content nor the major subjects of the undergraduate program is rigidly prescribed. It is desirable, however, for an applicant to have studied some of the following subjects: history, political science, economics, cultural anthropology, sociology, biology, psychology, and English.

The school has particular interest in the recruitment and admission of minority group students. Special recruitment efforts have been developed toward this end.

The minimum academic requirement for eligibility for admission is the attainment of a 2.7 ("B-") grade point average on a 4.0 scale for the last 60 hours of academic work. Exceptions may be made to practitioners who have received the baccalaureate degree at least five years previously and who obtained a 2.5 grade point average, or for students with unusual qualifications.

Within the policies established by the Academic Campus of Virginia Commonwealth University, determination of eligibility for admission is made by a school admissions committee which considers scholarship ability, academic background, work experience, if any, and personal qualities that indicate potential to meet the requirements of the social work profession.

The same admission procedures apply to returning or transfer applicants from other universities or to those applying for full-time admission from the part-time program. Students must complete all requirements for the degree within six years.

PART-TIME PROGRAM

The school welcomes mature and qualified persons who seek to participate in its part-time program. Applicants are expected to plan the completion of all requirements for the degree program. Students who enter the program may take the first 30 credits required towards a Master of Social Work degree on a part-time basis. Students must complete the last 30 hours of credit in the full-time program and maintain a 3.0 average on a 4.0 scale. All requirements for the

degree must be completed within six years.

Most courses required in the part-time program are available through the VCU Evening College and Summer Sessions. Off-campus credit courses are also provided in other areas of Virginia. Part-time students may register for day courses, if space is available.

Admission

For a student to have part-time credit applied to the Master of Social Work degree at a later time, he must be admitted to the School of Social Work as a *provisional student*. The same admission policies regarding undergraduate grade point average apply to *provisional* students as well as to full-time students. Students may be admitted to *provisional* student status at any time during the year. Admission to *provisional* student status must be completed prior to or during the same semester in which a course is taken for credit, if the credit is to be applied toward a degree.

Admission to *provisional* student status does not guarantee admission to the full-time program. Part-time *provisional* students must submit a request to the director of admissions for completion of the admission process and full clearance to enroll in first year field instruction courses. This request must be submitted in writing no later than the first day of the semester preceding the semester in which field instruction will begin.

Application forms, policies, and curriculum for the part-time program are available from the Director of Admissions, School of Social Work, Virginia Commonwealth University, 326 North Harrison Street, Richmond, Virginia 23284.

Requirements

Part-time students are expected to complete 30 semester hours of credit by approximating the normal sequence of courses in the full-time program. Students must consult with an advisor prior to enrolling in courses in the part-time program. Part-time students may carry a maximum of six credits per semester unless they are registered for field instruction. The field instruction requirements may be met through a block

placement in one semester (four days per week) or in the summer (five days per week for 13 weeks), or during two semesters (two days per week).

ADVANCED STANDING PROGRAM

An advanced standing program is available to a selected group of students who have graduated from an undergraduate program in social welfare or social work accredited by the Council on Social Work Education. This program leads to a Master of Social Work degree upon completion of a minimum of 38 credit hours which can be completed in a summer session including class and field instruction followed by an academic year with a concurrent field practicum.

Each student's curriculum will be individually planned to recognize previous social work education and to insure a balanced graduate program. Students' schedules will be reviewed by the Advanced Standing Committee for final approval each semester.

Admission to Advanced Standing Program

Each applicant for admission to the advanced standing program must hold a bachelor's degree from an undergraduate social work program *accredited* by the Council on Social Work Education. Students enter the program during the summer prior to the fall semester. The minimum academic requirement for consideration for admission to the advanced standing program is the attainment of a 3.0 ("B") grade point average for the last 60 hours of academic work.

Within the policy established on the Academic Campus of Virginia Commonwealth University, all applicants will be reviewed by the Advanced Standing Committee for recommendation to the School Admissions Committee regarding their admissibility to the advanced standing program. Where indicated, a personal interview will be conducted with the applicant, and a written evaluation, prepared by the applicant's undergraduate program, will be reviewed. Consideration will be given to scholarship ability, academic background, work experience, if any, and personal qualities that indicate potential to meet the requirements of the social work profession.

Application forms may be secured from the Director of Admissions, School of Social Work, Virginia Commonwealth University, 326 North Harrison Street, Richmond, Virginia 23284 (telephone 804-770-6651).

SOCIAL WORK EDUCATOR PROGRAM

Master's level social workers are being employed as faculty in community colleges and baccalaureate programs in social work. A second-year concentration in teaching undergraduate social work is offered to selected students who demonstrate substantial scholarly attainment, effective social work practice skills, and specific interest in preparation for teaching careers. Students admitted to this concentration may have specialized in any of the methods previously described during their first year of study.

Students in this concentration complete all required courses in social work plus additional courses specific to teaching and social work education. During the fourth semester the student completes a practicum in teaching in which he carries responsibility for an undergraduate course in social work. For further information, students should contact their advisors.

SCHOOL SOCIAL WORK PROGRAM

Through a collaborative program with the School of Education at the university, a limited number of students may meet standards for certification as school social workers, in addition to meeting all requirements for the Master of Social Work degree. Students interested in certification as school social workers should contact their advisors during the first semester of their program and may complete the dual requirements within 60 credits.

COOPERATIVE PROGRAM WITH PRESBYTERIAN SCHOOL OF CHRISTIAN EDUCATION (PSCE)

In this program, limited to three students, the first year of study is completed at PSCE and the second year at the School of Social Work in order to meet the requirements for the degree of Master of Arts and Christian Education. The student may spend an *additional year at the School of Social Work*

and meet the requirements necessary for the Master of Social Work degree.

Applications for admissions must be made to each institution separately. Those interested should write both to the Director of Admissions, School of Social Work, Virginia Commonwealth University, 326 North Harrison Street, Richmond, Virginia 23284 and to the Dean, Presbyterian School of Christian Education, 1205 Palmyra Avenue, Richmond, Virginia 23227.

ADDITIONAL RESOURCES, ACTIVITIES AND PROGRAMS

Continuing Education Program

The Department of Continuing Education in the School of Social Work offers a variety of lectures, institutes, and workshops as part of the school's commitment to enhance social work practice and broaden educational experiences for students, social workers, field instructors, and others in social service delivery systems. State, regional, and local agencies and institutions frequently identify educational and training needs in content or skill areas for selected staff members. The Department of Continuing Education, through contractual arrangements, contributes expertise in designing and implementing short-term training courses.

The school offers continuing education units (CEU's) to participants through the Center for Continuing Education at Virginia Commonwealth University. In addition to available university funds, grants to the school have been available from the National Institute of Mental Health; Council on Social Work Education; Virginia Department of Mental Health and Mental Retardation; State Office on Volunteerism; Virginia Division of Drug Abuse Control; U.S. Department of Health, Education and Welfare; U.S. Social and Rehabilitation Service; Council on Criminal Justice of the Virginia Division of Justice and Crime Prevention which support continuing education offerings.

Offerings of the Department of Continuing Education are planned throughout the year and are available throughout the Commonwealth of Virginia. For further informa-

tion about specific continuing education courses, inquiry should be addressed to Mrs. Florence Z. Segal, Director of Continuing Education, School of Social Work, Virginia Commonwealth University, 326 North Harrison Street, Richmond, Virginia 23284.

Alumni Association

The School of Social Work Alumni Association actively supports the program of the school with the president serving as a member of the Advisory Board. The association established the H. H. Hibbs Loan Fund and continues to contribute to the support of it. The Stuart J. Gluck Memorial Library was established by a special committee of alumni and friends and is administered by the association. The association has quarterly meetings with the spring meeting behind held during the Annual Conference of the Virginia Council on Social Welfare.

Alumni Association Officers, 1977-78

Sharon J. Peterson
President
Douglas Abell
Vice-President
Harriet Gwathmey
Secretary
William Murphy
Treasurer

Student Association

The Student Association is the organization of students enrolled in the school, established for the purposes of facilitating communication among students and between the student body and the school. It provides the means upon which student concerns and ideas can be formulated and acted. Also, it enables students to conduct a variety of social and other activities throughout the year.

This organization plays a vital role in the educational process. Student contributions to the governance and curriculum of the school are of value to both the institution and the student. Participation in the decision making process is accomplished through student representation on committees. The faculty and the students work closely to-

gether throughout the year to meet the needs of graduate social work education. Students participate as full members of many committees within the school.

Student Association Officers 1977-78

Carol Froehlich
President
Maggie Barr
Vice-President
Amy Repard
Secretary
Michael Grogan
Treasurer

Black Student Association

The Black Student Association was established to create and maintain an atmosphere of unity and brotherhood among black students in the School of Social Work. It serves to assist the students in their personal and professional growth and development. Membership in this organization helps the student to develop a keen awareness of the acute needs of the black community and the active role that must be assumed by the dedicated black professional social worker in promoting the general welfare of black citizens. To attain these goals, the organization utilizes the educational process and related experiences of the student at the school and in field work. Students are encouraged to participate in all phases of the academic environment. Black students are expected to maintain membership in and are members of the Student Association of the school.

Officers 1977-78

Della C. Rucks
President
Barbara G. Burton
Vice-President
Carrie G. Smith
Secretary
Luther J. Jennings
Treasurer

MASTER OF SOCIAL WORK DEGREE REQUIREMENTS

The M.S.W. degree requirements are met through a course of full-time studies which consist of concurrent academic and field

education during the two consecutive academic years. The two-year program requires a completion of 60 credits of graduate study.

The first semester, a foundation semester of the program, covers major concepts in human behavior, social policy, social research, and the major method selected by the students. Students are grouped by areas of specialization in the second semester. This semester is designed for the study of more specific knowledge of the social service delivery system as it relates to human behavior, social policy, research, and practice. Students are in the field two days each week during the first academic year.

In the second academic year, the third semester requires concurrent field instruction with related class instruction in the student's major method, a secondary method, and completion of a field research project. In the fourth semester, in addition to a required practice course and field instruction, students have the opportunity to elect courses reflective of their areas of interest and career goals. Students are in the field two and one-half days each week during the second academic year.

Field Instruction

Field instruction is an integral part of the curriculum of the School of Social Work. Under professional supervision, the student integrates into practice the knowledge, attitudes, and skills studied in the total curriculum. Field instruction placements in the four specialized service delivery systems are available in Richmond and in other Virginia communities.¹ Included are juvenile learning centers, adult correctional facilities, family service agencies, community mental health centers, hospitals, schools, treatment center for children, social service bureaus, alcoholic services, and planning agencies.

Academic Status

A minimum of one year of full-time study, a minimum grade point average of 3.0 ("B")

on a 4.0 scale over the entire period of study, a total of 60 credits in the two-year or 38 credits in the advanced standing program, and demonstrated ability in social work practice are required for graduation with a Master of Social Work degree.

A student must have completed 30 credits of the first year and have a 3.0 average to continue into the second year.

A student with less than a 3.0 average may apply to return after an absence of one year.

A student with less than a 3.0 average at the end of the first year, who takes courses in the Summer Sessions and raises his average to 3.0, may petition for return without a year's absence. However, each student's situation will be considered individually and the student may still be required to take a leave of absence for one year.

A student who receives a grade of "C" or below in 20 percent or more of his courses at the end of the second semester or cumulatively in any of the succeeding semesters, will be dropped automatically from the program without regard to the grade point average.

A student may receive a "C" (2.0) in the first semester of field instruction. In each subsequent semester, however, a minimum of "B" (3.0) in field instruction will be required for successful completion of the MSW Program. An overall average of 3.0 in field and course work must be maintained for the total period of study.

At all times, a student must show acceptable professional behavior to be retained in the graduate program.

Residency Policy

During the last 30 semester hours of credit of the Master of Social Work degree, a student is required to take a minimum of 12 credit hours during consecutive fall and spring semesters and be registered for field instruction for each of these semesters.

Transfer Credits and Waivers

Upon petition, the Student Status Committee of the School of Social Work may approve the transfer of graduate credits granted by another accredited college or university, or by other departments of

¹Some students whose placements are at a distance from Richmond arrange overnight accommodations at their own expense.

Virginia Commonwealth University to the degree program. Students may petition the Student Status Committee, following acceptance into the School of Social Work. Contact your advisor or the assistant dean.

Additional policies and procedures governing the educational program of the school may be found in the School of Social Work *Student Handbook* which is distributed at the time of matriculation.

Selection of Specialization 1977-78

All students are required to concentrate their studies within one social service delivery system and in one major method of social work practice. Social service delivery system concentrations are available in four areas: the adult and juvenile justice system, health system, family service and welfare system, and mental health and mental retardation system. Students are required to select one major method from among social casework, social group work, social planning, or social work administration. Admission to social work administration is limited to those applicants who have a minimum of three years experience in the social service field or some equivalent. Each concentration is described below.

Any questions concerning selection of a social service delivery system and a major method of social work practice should be addressed to the Director of Admissions, School of Social Work, Virginia Commonwealth University, 326 North Harrison Street, Richmond, Virginia 23284.

SOCIAL SERVICE DELIVERY SYSTEMS

Adult and Juvenile Justice System: The justice system is charged by society to deal with behavioral deviance from socio-legal norms and standards. It is concerned with adults charged with criminal offenses and juveniles charged with either criminal or status offenses. The system encompasses a variety of settings which relate to offenders from the point of arrest or petition through final discharge from the system. These settings include courts, juvenile learning centers, adult correctional facilities, agencies charged with administering probation and parole services, half-way houses, state

departments of corrections and youth services, and planning agencies such as Law Enforcement Assistance Administration. Social workers may work in the system as direct service workers, supervisors, staff developers, program evaluators, planners, or administrators.

Health System: Focus in the health system is on a health to illness continuum. The maintenance of health is a basic need of all individuals and illness is a major social problem which can disturb patterns of individual and family functioning, produce emotional strain for patients and their families, and cause economic and social distress. The health system is concerned with prevention of illness, care for those who become ill, and restoration of sick and disabled persons to maximum health and social functioning. Health related agencies include general and special hospitals and clinics; health departments on state and local levels; health planning agencies; community health centers, child development centers; nursing and convalescent homes; family planning, abortion and sex counseling programs; health maintenance organizations; health advocacy and consumer agencies; and vocational rehabilitation programs. As part of a multi-disciplinary team, social workers provide direct social services to patients and their families or serve as consultants, administrators, planners, or program evaluators.

Family Service and Welfare System: The family, as a system is defined by the functions it performs. As the primary social and emotional unit in society, the family functions to meet the changing needs of its members for affection, subsistence, socialization, and in the utilization of other social institutions. In this context, public and private social agencies provide economic supports and social services to prevent family breakdown or destitution, to maximize effective social functioning of the family, and to meet special needs of persons deprived of family membership. These public and private agencies include agencies which meet basic family *welfare needs* for income, housing, employment, and education; family agencies which clearly identify

the family as a unit of service and provide counseling to individuals and families; agencies which deal primarily with children and youth affected by family breakdown or dissolution; agencies which offer supportive services to families with aged members or to individual aged persons; and agencies which interact with larger divisions of society to identify family needs, plan and develop services, and act to promote equitable distribution of political, social, and economic resources which affect the quality of family life. Social workers provide counseling services to individuals and families. They also work as supervisors of direct service workers, staff developers, family life educators, consultants, administrators, social planners, and program evaluators.

Mental Health and Mental Retardation System: The mental health and mental retardation system has responsibility for care and treatment of persons with retardation and emotional impairment and for prevention of mental retardation and mental illness. Both these conditions are major social problems which impose severe emotional, social, and financial burdens upon individuals, their families, and their communities. Mental health organizations include state institutions for the mentally ill and/or the mentally retarded; community mental health centers; and public and private hospitals, mental health clinics, child guidance clinics, rehabilitation centers, half-way houses, and sheltered workshops. Persons served may manifest relatively mild emotional problems to severe psychosis, mild to severe mental impairment, and either chronic or acute illness. As a part of a multi-disciplinary team, social workers provide direct social services to patients/clients and their families or serve as consultants, supervisors, planners, administrators, or program evaluators in the organizations and agencies that the system comprises.

SOCIAL WORK MAJOR METHODS

Administration Concentration. Students electing social work administration as a major method focus upon the assumption of responsibilities as social service agency

administrators or subadministrators in either public or private agencies. The emphasis is on the organizational problems that confront administrators in relation to professional mandates and business principles involved in meeting the overall social work professional imperative, that is the efficient use of social service organization and personnel in the resolution of social problems at the individual or community level. Students selecting administration as their major method will be required to take social planning as their secondary method.

Social Planning. Social planning as a major method emphasizes problem-solving skill in the sense of creating, initiating, and maintaining community institutions and services that can effectively provide for the social environmental needs of the public being served. The social planning includes the study of the various organizations that make up the social welfare system, methods, and processes of social planning. Among these are methods of organizing people to achieve community objectives, defining the planning task, selection of goals and priorities, decision-making, coordination of services, and change strategies. The students selecting social planning as their major social work methods will be required to select social work administration as their secondary method.

Social Casework. Casework as a method contributes to individual and family development, prevention of social impairment, restoration of effective social functioning, and realization of potential for responsible and satisfying social living. Social casework centers on the establishment and utilization of a helping relationship, unique assessment of the individual's and family's problems within the context of their situation, treatment, termination, referral and transfers, interventions on behalf of clients, and contributions to the client's ability to achieve his own and society's purposes. Students selecting social casework as their major method will be required to take social group work as their secondary method.

Social Group Work. Social group work

is a method of social work practice that aims to help people help each other in the enhancement of their social functioning and the achievement of self-actualization through the use of group experience and to help groups function effectively and responsibly in the fulfillment of the purposes. The social group work method is used in services that help restore effective social functioning, prevent social impairment, and develop optimum individual potential in social relations. The curriculum covers the study of the various aspects of group life, the meanings of group experiences for the group as a whole and for the individual members, methods of facilitating the process of group and individual development. Students selecting social group work as their major method will be required to take social casework as their secondary method.

CHANGING SYSTEM AND/OR METHOD SPECIALIZATION

Students are required to select their choice of specialization and method at the time of admission. After consultation with their advisor, students may change their system and method choice.

Full-time first-year students may change their system specialization and/or major method at the end of the first semester. Requests for change must be approved by November 1. Students may also change major method at the end of the first year. Requests must be approved by April 1.

No additional course work will be required of students who change system concentration at the end of the first semester. If there is a change of method or of both system and method, additional course work and/or additional time may be required.

COURSE REQUIREMENTS FOR THE MASTER OF SOCIAL WORK DEGREE

Specific courses required of students may differ depending upon the choice of concentration in a social service delivery system and/or the choice of a major method of social work practice. The following courses and semester outlines will indicate the specific courses according to the various delivery systems or major methods.

TWO YEAR PROGRAM²

First Year, Fall Semester

| | | |
|--|----------------------------|-------------------|
| Individual in Society, SLW551 | All Students | 3 Credits |
| Foundations of Social Policy, SLW 549 | All Students | 3 Credits |
| Conduct of Inquiry, SLW504 | All Students | 3 Credits |
| Methods I Course | By Method | 3 Credits |
| Fundamentals of Social Casework, SLW501 | All Casework Majors | |
| Fundamentals of Social Planning, SLW521 | All Social Planning Majors | |
| Foundations of Social Group Work, SLW511 ... | All Group Work Majors | |
| Fundamentals of Social Services Administration, SLW531 | All Administration Majors | |
| Field Instruction—fall semester, SLW571 | By System and Method | 3 Credits |
| | TOTAL | 15 Credits |

First Year, Spring Semester

| | | |
|--|---|-----------|
| Human Behavior Course (Prerequisite: SLW551) | | 3 Credits |
| Person in Justice System, SLW609 | All Adult and Juv. Jus. CW and GW Majors | |
| Dynamics of the Family, SLW610 | All Fam. Serv. and Wel. Sys. CW and GW Majors | |
| Physical Illness and Handicaps, SLW616 | All Health, CW and GW Majors | |
| Emotional Disorders, SLW617 | All MH/MR CW and GW Majors | |
| Social Structure and Human Behavior, SLW618 . | All Administration or Social Planning Majors | |
| Social Policy Course (Prerequisite: SLW549) | By System | 3 Credits |
| Adult and Juvenile Justice Policies and Programs, SLW619 | All Adult and Juvenile Justice Majors | |
| Social Welfare Policies and Services for | | |
| Individuals and Families, SLW620 | All Family Service and Welfare Majors | |
| Social Policy and Health Care, SLW626 | All Health Majors | |
| MH/MR Policy Services, SLW627 | All MH/MR Majors | |

| | | |
|--|---|-------------------|
| Methods II Course | By Method | .3 Credits |
| Social Casework II, SLW629 (Prerequisite: SLW501) | All Casework Majors—Sectioned by System | |
| Social Group Work II, SLW630 (Prerequisite: SLW511) | All Group Work Majors | |
| Social Planning II, SLW635 (Prerequisite: SLW521) | All Social Planning Majors | |
| Administration II, SLW628 (Prerequisite: SLW531) | All Administration Majors | |
| Research Course (Prerequisite: SLW504) | By Method | .3 Credits |
| Evaluative Research in Direct Practice, SLW638 | All Casework and Group Work Majors | |
| Program Evaluation, SLW639 | All Administration and Planning Majors | |
| Field Instruction II, SLW640 (Prerequisite: SLW571) | By System and Method | .3 Credits |
| | TOTAL | 15 Credits |

Second Year, Fall Semester

| | | |
|---|--|-------------------|
| Methods III Course | By Method | .3 Credits |
| Administration III, SLW641 (Prerequisite: SLW628) | All Administration Majors | |
| Social Group Work III, SLW646 (Prerequisite: SLW620) | All Group Work Majors | |
| Social Planning III, SLW647 (Prerequisite: SLW635) | All Social Planning Majors | |
| Casework III MH-MR SLW645 (Prerequisite: SLW629-617) | All MH-MR Casework Majors | |
| Casework III—Adult and Juv. SLW642 (Preq.: SLW629-609) | All Adult and Juv. Justice Casework Majors | |
| Casework III—Family Welfare SLW643 (Preq.: SLW629-610) | All Family/Welfare Casework Majors | |
| Casework III—Health SLW644 (Prerequisite: SLW629-616) | All Health Casework Majors | |
| Secondary Method Course | By Method | .3 Credits |
| Fundamentals of Social Casework, SLW501 | All Social Group Work Majors | |
| Fundamentals of Social Planning, SLW521 | All Administration Majors | |
| Foundation of Social Group Work, SLW511 | All Casework Majors | |
| Fundamentals of Social Services Administration, SLW531 | All Social Planning Majors | |
| Black Experience/Racism, SLW663 | All Students | .3 Credits |
| Field Research, SLW664 (Prerequisite: SLW638 or 639) | All Students | .3 Credits |
| Field Instruction III, SLW680 (Prerequisite: SLW571-640) | All Students | .4 Credits |
| | TOTAL | 16 Credits |

Second Year, Spring Semester

| | | |
|---|---|-------------------|
| Methods Course | By Method | .3 Credits |
| Social Work Practice in Communities and Organizations SLW666 | All Casework and Group Work Majors | |
| Social Work Practice with Individuals and Groups SLW607 | All Social Planning and Administration Majors | |
| Electives | | .6 Credits |
| Field Instruction IV SLW647 (Prerequisite: SLW571-640-680) | All Students | .4 Credits |
| Field Integration Seminar SLW681 | All Students | .1 Credit |
| | TOTAL | 14 Credits |

*Curriculum requirements are subject to change, and may not be offered each semester. The curriculum of the School of Social Work is in the process of revision, and additional changes may occur prior to fall 1977.

GRADUATE COURSES IN SOCIAL WORK (SLW) 1976-77³

501 Fundamentals of Social Casework. 3 credits. Introduction to basic theories, principles, and skills of social casework practice and processes: the giving and taking of help; the establishment and utilization of the casework relationship; referral; intake and diagnostic assessment; treatment; transfers and termination; interventions on behalf of clients; and the limits of social casework. Examination of past life experiences and current stresses in relation to identification of the unique characteristics of each individual and assessment of the individual's problems within the context of general principles. Special emphasis on the professional use of self, the common core of social casework practice, and the person-in-situation.

504 Conduct of Inquiry. 3 credits. Nature of knowledge and theory building and utilization, serving as an introduction to the scientific method, and including analysis of community-based data and implications for social work practice. Provides students with the foundations of the research process (problem identification, problem formulation, and research design), as well as the critical thinking and conceptual and analytical skills which are prerequisite for professional social work practice.

551 Foundations of Social Group Work. 3 credits. The values, objectives, and principles of social group work practice. All major aspects of group life, with emphasis on the purposes, content, and forms of various group experiences. The meanings of these experiences for the group as a whole and for the individual members. Special emphasis on the beginning process in working with groups. Introductions to knowledge and skill in the use of program content in working with groups. The worker's role in facilitating the processes of group and individual development.

521 Fundamentals of Social Planning. 3 credits. Social planning by community decision-making organizations (welfare organizations, city, regional, state, and federal planning and service agencies); methods of planning; consumer advocacy; defining the planning task; selection of goals and priorities; decision-making; interorganizational exchange; coordination of services; planning problems in developing specialized services; and change strategies for racial and ethnic minorities. Consumer participation in the planning process; role of the worker in alternative methods of community organization practice.

531 Fundamentals of Social Services Administration. 3 credits. Introduction to administration in social work settings. Knowledge and research about leadership theory. Directing techniques. Communication networks. Organizational representation. Systems analysis. Change-in-organization models. Authority

and professional function in bureaucratic settings. Motivation theory.

549 Foundations of Social Policy. 3 credits. Basic knowledge about policy development and assessment and a foundation for analysis of specialized social service delivery systems. Policy development and evaluation as structured by: evolving definitions of human rights; the law as it defines rights and duties of individuals, social agencies, and society; values as definers of social problems and policies; and resources as opportunities and constraints, including money, manpower, facilities, and effects of institutional racism. Skill in application of selected models for analysis of current social welfare policies and programs.

551 Individual in Society. 3 credits. Theoretical perspectives on human growth and development. Human behavior as a continuum from the so-called normal to the most disordered. Interrelationships between the psychological, physic-biological, and sociological forces that shape the formation of the self. The variety of ways in which growth and development proceed, particularly in relation to racial, ethnic, and cultural differences. Impact of social forces such as group membership, community life style, and institutional racism on human behavior.

571 Field Instruction. 3 credits. Integration and application of core course and field learning as an accountable representative of a social agency. Basic knowledge, attitudes, and skills necessary for responsible professional social work practice in a selected service delivery system. Educational emphasis on the active use of content from all areas of the curriculum.

607 Social Work Practice with Individuals and Groups. 3 credits. Introduction to basic theories and principles of social casework and social group work practice and processes. Emphasis on utilization in planning and organizational contexts. The worker's role in facilitating group and individual development. The establishment and utilization of the helping relationship. The components of casework processes and the role of the worker. All major aspects of group life, with emphasis on the purpose, content, and forms of various group experiences.

609 Person in the Justice System. 3 credits. Definitions of deviant, anti-social, and criminal behavior. Etiology of socially unacceptable behavior. Theoretical positions in relation to deviant behavior. Explicit and implicit theoretical components of the various treatment modalities found in the justice system. Effect of personal and institutional racism on psycho-social functioning. Prison experience as a force in development of a changed life style.

610 Dynamics of the Family. 3 credits. Definition and function of the family as a biological-socio-psychological unit in American society. Individual growth and development in family life. Significance of family in socialization and nurturing. Development of

³Courses may not be offered every year and are subject to change.

family style. Impact on the person of family interactions. Impact of changing male/female roles, sexual mores, and new forms of family experience. Diversity of family life in terms of racial and ethnic differences. Interaction of the family with other social institutions, including public welfare agencies, schools, and agencies offering leisure time activities. Impact of social and community processes on individual and family functioning.

616 Physical Illness and Handicaps. 3 credits. Physical health and illness and the emotional and social stress placed upon individuals and families when physical illness and handicaps are present. Psycho-social factors in the etiology and effects of illness and other physical handicaps. Specific disease states, including medical terminology, and the emotional behavior related to specific physical disabilities. Physical illnesses and handicaps which are significant at various life stages. Human sexuality and dysfunctioning in the sexual area. Social conditions and ethnic and racial differences as they contribute to health problems. Physical factors in the cause and treatment of alcoholism and drug abuse. Role of the health system as an influence on the behavior of the person in that system.

617 Emotional Disorders. 3 credits. Definition of the concepts of mental health, mental illness, and mental retardation, with a view of mental health and mental illness as a continuum. Etiology of emotional disorders and social deviance. Traditional classification systems and newer approaches in use of clinical practice. Alcoholism and other substance abuse in terms of the physiological, psychological, and sociological components of causation, behavior, and treatment. Causes of and treatment modalities in mental retardation and behavior patterns of the mentally retarded. Comparative theories and therapeutic approaches. Impact of racial and ethnic differences on emotional disorders and social deviance. Effect of mental health and the larger community on the behavior of the person.

618 Social Structure and Human Behavior. 3 credits. The behavior of the individual as a member of a community with an emphasis on community functions and institutions as they impact on the person. Concepts of socialization, the network of social systems, social control, social participation, social role, mutual support, and social stratification. Examination of variations in communities in relation to such factors as race, income, social status, religion, and ethnicity as a means of understanding the diverse ways in which a community's activities are manifested in its institutional patterns and how these differences affect behavior.

619 Adult and Juvenile Justice Policies and Programs. 3 credits. Analysis of the purposes, functions, and structures of the adult and juvenile justice systems, legal and economic bases of the current system, analysis of the system, and the relationship of the parts of the system to one another. Policy development as structured by selected movements and counter-movements in American criminology, penology, forensic psychiatry, and social welfare, including: institu-

tional and non-institutional policies and programs; adult and juvenile system components; law as it relates to system clients; problems in system reform; and systemic and institutional racism. Current system-related issues ranging from arrest to probation and parole.

620 Social Welfare Policy and Services for Individuals and Families. 3 credits. Analysis of policy, program, and service developments in the public and private sectors which impact on the lives of individuals and families. Legal bases and current issues relevant to system components in the public and private sectors; auspices, funding patterns, and resource distribution. Policy development as structured by: the shifting context of American values and philosophy; economic needs and opportunities; employment, income, and living standards; the roles of social, economic, and political institutions; and the incidence and impact of racism and social factionalism.

626 Social Policy and Health Care. 3 credits. Analysis of the purposes, functions, and structures of the health care system at the federal, state, and local level. Policy development in the public and private sectors of the system as structured by movements and counter-movements within the health professions; professional organizations and related business organizations; the varieties of health related programs and services; shifting values regarding access to health care services, including the influence of individual and institutional racism and consumerism; funding patterns and resource distribution; and standard setting. Analysis of existing structures, proposed legislation, and issues within the context of the social right to quality health care, ranging from prevention to after-care.

627 Mental Health and Mental Retardation Policy and Services. 3 credits. Analysis of the purpose, organization, and public and private programs of federal, state, and local mental health and mental retardation system components. Policy development as structured by social responses to mental illness and mental retardation, including institutional and non-institutional policies and programs; shifting social values and attitudes; the law as it relates to the rights of the system's clients; forensic psychiatry; the socio-economic status of the system's clients; including the impact of racism and poverty; citizen and consumer participation; and funding patterns and resource distribution. Analysis of current and proposed mental health and mental retardation legislation relating to needs ranging from prevention to after-care.

628 Administration II. 3 credits. Design of control systems. Budgeting processes. Program evaluation and research. Organizational planning steps. Inter- and intra-organizational coordination. Negotiation skills. Conflict resolution. Goal setting. Roles of administrators in human resources settings.

629 Social Casework II. 3 credits. Re-examination in depth and breadth of the helping process with special emphasis on practice settings and human behavior

concepts relevant to social service delivery system specializations. In depth examination of problems clients present and subsequent refinement of casework intervention with emphasis on the influence of biopsychosocial factors, illness and disease, family dynamics, and ethnicity in practice. Crisis intervention and short-term treatment.

630 Social Group Work II. 3 credits. The group's operational patterns and processes, the worker's role in enabling the group to achieve its purposes, including analysis of the processes of group formation, group goal-achieving, group relations, group development, and group termination. Differential assessment of target populations and racial/ethnic factors. The use of program content in the goal-achieving process. Small group theory and research related to social group work practice.

635 Social Planning II. 3 credits. Rational, political, and value considerations related to feasible planning for social change. Problem-solving activity in relation to the design, funding, and evaluation of social service delivery systems. Fund-raising, grantsmanship, determination of need, Program Evaluation Review Technique system, cost comparison analysis, program design, and program evaluation.

638 Evaluative Research in Direct Practice. 3 credits. Methods, problems, and research findings related to the evaluation of social work practice. Research design options and methodologies pertinent to assessing the effectiveness of clinical practice. Roles and contributions of evaluation research in clinical practice and in depth knowledge of research findings. Critical assessment of research literature related to selected social work practice problems.

639 Program Evaluation. 3 credits. Methods, problems, and research findings related to the evaluation of social welfare programs. Research design options and methodologies available for program evaluation. Organizational and administrative contexts in which evaluation activities are initiated, supported, disseminated, and utilized. Data processing and the roles of data analysis and the computer in the evaluation of social welfare programs.

640 Field Instruction II. Continuation of field instruction and learning as an accountable representative of a social agency, with emphasis on the integration and active use of content from all areas of the curriculum. Emphasis on the integration and application of system specific knowledge and attitudes and on the development of skills required for professional social work practice in a selected service delivery system.

641 Administration III. 3 credits. Knowledge and skill in administrative supervision. Use of authority and power. Personnel evaluation. Manpower utilization. Staff development. Planning of training programs. The role of middle-management in human resources settings. Recruiting. Differential use of method in specific delivery systems.

642 Casework III: Adult and Juvenile Justice System. 3 credits. Integration of human behavior theory, knowledge of the justice system, and casework practice at an advanced level. Practice in authoritative secondary and transitional settings. Emphasis on various conceptual frameworks and the emerging treatment interventions developing from this knowledge, such as behavior modification, contract approaches, therapeutic community, and family therapy. Interventions with families of persons in the system. Interdisciplinary functioning, collaboration, and use of community resources. Impact of race, ethnicity, and social class. Research findings pertinent to behavior and practice.

643 Casework III: Family Service and Welfare. 3 credits. Family dynamics and family centered casework in both the public and private sector with focus on the integration of human behavior principles, knowledge of this system, and casework method at an advanced level. Relevance of various theoretical frameworks of family dynamics for casework knowledge, principles, and skills. Joint and conjoint interviewing, the marital relationship as a focus for treatment, family life education, family treatment, work with the aged, one-parent families, child placement, and adoptions. Concrete services within the framework of casework practice and collaboration with other disciplines. Impact of race, ethnicity, and social class in both the genesis and treatment of family problems. Pertinent research findings that illuminate practice.

644 Casework III: Health System. 3 credits. Application of human behavior and casework principles in the health system. Basic concepts of illness such as stress, psychosocial, and psychosomatic influences and the impact of race, social class, and ethnicity on states of health and illness. Behavior and practice in relation to specific disease entities such as cancer, heart disease, et al. Impact of illness on families and practice implications. Primary and secondary prevention and the particular health problems of the aging and dying. Role of the social worker in public and private secondary settings, principles of collaboration in an interdisciplinary field, and use of community resources. Research findings which illuminate practice and define further study areas.

645 Casework III: Mental Health and Mental Retardation. 3 credits. Application of principles of behavior and casework to problems of mental illness, emotional disorders, and mental retardation in children and adults. Theoretical approaches for understanding the relationship between differential diagnosis and selection of treatment interventions. Knowledge, principles, and skills of particular relevance for this system, including crisis intervention, milieu therapy, psychotropic drugs, social competency, behavior modification, and work with families. Impact of ethnicity and social class. Interdisciplinary functioning, collaboration, and interdigitation with traditional and emerging community resources. Pertinent research findings in human behavior and casework.

646 Social Group Work III. 3 credits. The perception,

evaluation, and interventive actions of the worker in relation to individual performance in the group. Focus on individual contributions to, and gains from the group process. Role of the worker in helping individuals use group relations to meet their common and differential needs in social functioning. Behavioral knowledge underlying practice in relation to social and psychological criteria for the individual social functioning in the group. Knowledge of member's needs and strengths in relation to target populations and racial and ethnic factors. The use of program content in social group work practice. Differential use of method in specific delivery systems is analyzed, and pertinent research findings in human behavior and group work are incorporated.

647 Social Planning III. 3 credits. Continuation of SLW 635, involving the completion of a problem-solving assignment in planning related to the design, funding, and evaluation of a specialized human resources delivery system. Utilization of social policy analysis and research methodology in planning. Peer review and interchange of analyses. Differential use of method in specialized systems.

657 Field Instruction IV. 3 credits. Continued integration and application of knowledge and learning required for professional social work practice in a specific delivery system. Emphasis on the refinement of methodological skills required for entry into professional practice.

663 Racism and the Black Experience. 3 credits. Examination of the experience of blacks in the context of American society as a framework for analysis and understanding of racism as a socially determined phenomenon. Emphasis on understanding of and sensitivity to institutional structures and individual behaviors included in the concept of racism. Analysis of the influence of race and ethnicity on the various processes in which clients, social workers, and social agencies engage. Development of indices of racism and strategies for its elimination.

664 Field Research. 3 credits. Development of a project which demonstrates skill in the review, critical analysis, and integration of research literature pertaining to a problem area related to the student's specialization in either a social work practice method and/or a service delivery system; and where appropriate, in the analysis and processing of data derived from research related to this specialization.

666 Social Work Practice in Communities and Organizations. 3 credits. Knowledge of the dynamics of organizational behavior and structures as they relate to effective service delivery. Beginning skill in applying various administrative concepts, e.g., supervision, communication, delegation, division of labor, and staff development, to direct service agencies. Skill in utilizing social planning concepts, e.g., assessment of needs, interorganizational exchange, coordination of services, and funding. Knowledge of social planning processes by community organizations and alternative

methods of achieving social policy goals. Emphasis on the importance of utilizing community resources to enhance the functioning of the direct service agency and the community itself.

680 Field Instruction III. 3 credits. Continuation of field instruction and learning as an accountable representative of a social agency with emphasis on the application of system specific knowledge and social work practice skill development. Emphasis on the integration of human behavior and research content for students with concentrations in social casework and social group work practice, and social policy and research content for students with concentrations in administration and social planning. Particular attention to application of knowledge and the development of skill necessary for professional social work practice in a secondary method.

681 Field Integrating Seminar. 3 credits. Dynamic interaction of social policy, planning, and social work practice is examined through focus on field practicum activities. Study of the selection of methods of intervention for delivery of services within the system. Exchange of learning experiences about sectors of the system and linkages to other systems.

685 Block Field Instruction. (for part-time students only) 6 credits. Integration and application of core and system specific content as an accountable representative of a social agency. Knowledge, attitudes, and skills necessary for responsible professional practice in a selected service delivery system. Educational emphasis on the active use of content from all areas of the curriculum.

690 Profession of Social Work. 3 credits. Sociology of social work and its uniqueness as a profession. Changing purposes in response to changing social conditions and needs. Viability of its values and ethics within its philosophical base. Nature of professional identity and responsibility. Issues of accountability, professional commitment, social responsibility, racism, manpower, advocacy, and social change. Trends in education for social work.

691, 692, 693, 694 Independent Study⁴. 3 credits. The student will be required to submit a proposal for investigating some area or problem in social work not ordinarily included in the regular social work curriculum. The results of the student's study will be presented in a report. Open with faculty approval.

697, 698, 699 Topical Seminar. 3 credits. A seminar on current, specialized areas of interest to social work. Content offered will be reflective of current issues in the field. Particular topics for study in any one semester will be determined jointly by the students and the faculty instructor.

⁴A student may take a maximum of four independent study courses during his educational program.

AFFILIATED FIELD AGENCIES AND FIELD INSTRUCTORS 1976-77

(Unless otherwise indicated, field agencies are located in Richmond)

Alexandria Community Mental Health Center (Alexandria)

William Higgs, Ph.D., Director
Judith Krasnow, D.S.W., Director of Field Training
Michael Heilmann, Field Instructor

Alexandria County Department of Social Services (Alexandria)

Harvey Ramseur, Director
Kay Lassiter, Chief, Bureau of Training and Career Development
Kathy Bigalke, Field Instructor
Barbara Kennedy, Field Instructor

A. M. Masri, M.D., Ltd. (Petersburg)

A. M. Masri, M.D., Director
James Loomis, Field Instructor

Alcohol Safety Action Program

James A. Frederick, Director
Evanne Goode, Field Instructor

Bainbridge Community Center

Jane Reeves, Director and Field Instructor

Bank of Virginia Company

Phil Davidson, Vice-President
Bernard Scotch, Ph.D., Faculty Field Instructor

Beaumont Learning Center (Beaumont)

Ed Voss, Superintendent and Field Instructor

Bethlehem Center

Robert Wynne, Director and Field Instructor

Blue Ridge Acute Psychiatric Services (Charlottesville)

Bruce Greyson, Director
Dorothy Rudolph, Field Instructor

Catholic Diocese of Richmond

Arthur R. Caliman, Diocesan Director
Walter Grazer, Field Instructor

Catholic Family and Children's Services (Norfolk)

Elizabeth Crowling, Executive Director
David Poole, Field Instructor

Center for Community Health

Jean Harris, M.D., Director and Field Instructor

Central State Hospital (Petersburg)

Jose Erfe, M.D., Acting Director
Clarence Wall, Field Instructor

Charlottesville-Albemarle Association for Retarded Citizens (Charlottesville)

Russ Linden, Director and Field Instructor

Chesterfield County Public Schools (Chesterfield)

John Finkler, Ed.D., Director of Pupil Personnel Services
Karen Scherling, Field Instructor

Chesterfield Mental Health Clinic (Chesterfield)

Morton Horwitz, Director
Ruth Dahlke, Field Instructor

Children's Home Society

Philip Holzman, Executive Director
Sherry Peterson, Field Instructor
Peter Pufki, Field Instructor

Child Study Center

Maureen Larkin, Ed.D., Director
Frances Raphael, Faculty Field Instructor

Christian Children's Fund

Verent Mills, Executive Director
David Herrell, Field Instructor
Sarah Manning, Field Instructor

Commonwealth Psychiatric Center

William Lordi, M.D., Medical Director
Myriam Cain, Field Instructor
Lew Weber, Field Instructor

Community Counseling Center (Harrisonburg)

Daniel Shenk, Director and Field Instructor

Community Mental Health and Psychiatric Institute (Norfolk)

Ralph Coppola, Director
Karen Swager, Field Instructor

Daily Planet

Jim Cuddy, Director and Field Instructor

Family and Children Service of Richmond

Carl Rilee, Acting Executive Director
George Cain, Field Instructor
Jeanette Keefe, Field Instructor
Scott Mabe, Field Instructor
Rhoda Mintzer, Field Instructor
Claudine Penick, Field Instructor

Family Service of Roanoke Valley (Roanoke)

Max Davis, Director
Carl Stump, Field Instructor

Fairfax County Department of Social Services (Alexandria)

Carla Pittman, Supervisor and Field Instructor

Federal Reformatory (Petersburg)

Z.S. Grzegorek, Warden
William Cannon, Field Instructor

Francistown Community

Dorothy Klotz, Director
Mabel Wells, Faculty Field Instructor

Friends' Association for Children

John Purnell, Executive Director and Field Instructor
Clark Leonard, Field Instructor
James Ryan, Field Instructor

Hampton Public Schools (Hampton)

Doris Ennis, Director of Pupil Personnel Services
Lou Wessells, Field Instructor

Henrico County Mental Health Center

Laurence L. Dayton, Director
Randi Buerlein, Field Instructor
Reese Harris, Field Instructor
Estelle Woolwine, Field Instructor

Henrico County Planning Office

W. F. LaVecchia, Director of Planning
Michael Berry, Field Instructor

Henrico County Public Schools (Highland Springs)

Morton Bradman, Ph.D., Assistant Superintendent
and Director of Pupil Personnel Services
David Depp, Field Instructor
Dolores Friend, Field Instructor
Judith Mann, Field Instructor

Hopewell Department of Social Services (Hopewell)

Robert Martin, Superintendent
John Willis, Chief Probation Officer
Sheila Goldstein, Faculty Field Instructor

James River Correctional Center (State Farm)

Walter Riddler, Superintendent
Kenneth Osborne, Field Instructor

Jewish Family Services

Anne P. Lane, Executive Director
Esther Reilly, Field Instructor
Ronni Saunders, Field Instructor

Maryview Community Mental Health Center (Portsmouth)

Robert Ilaria, M.D., Center Director
Elizabeth Chedester, Field Instructor
Irene Providence, Field Instructor

Memorial Guidance Clinic

Betty Reames, Executive Director
Amy Rosenblum, Field Instructor

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Phoebie Harcum, Field Instructor

Mental Health and Mental Retardation-City of Richmond

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Lolita Anderson, Field Instructor
Ann Davis, Field Instructor
Nicholas Grillo, Field Instructor
Mattie Jones, Field Instructor
Sarah Jones, Faculty Field Instructor
Mary Lawson, Field Instructor
Henry Morris, Faculty Field Instructor
Sue Roberts, Field Instructor
Tom Victory, Field Instructor

Mental Health Services of Roanoke Valley (Roanoke)

Jim Sikkerma, Director and Field Instructor

Mount Rogers Community Mental Health and Mental Retardation Services Board (Galax)

Emory Aycock, Clinic Supervisor and Field Instructor

Norfolk City Schools (Norfolk)

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Mildred Allison, Field Instructor

Northern Virginia Family Services (Falls Church)

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Alice Kassabian, Field Instructor
Rita Siebenaler, Field Instructor

Northwest Center for Community Mental Health (Reston)

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John Thomas, Field Instructor

Offender Aid and Restoration

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Robert McGuire, Field Instructor

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Southside Area Mental Health Clinic (Petersburg)

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Betty Haack, Field Instructor

Southside Virginia Training Center for the Mentally Retarded (Petersburg)

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Tidewater Mental Health Clinic (Williamsburg)

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Herbert Oglesby, Director and Field Instructor

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Virginia Department of Welfare-Division of Social Services

Henry Gunn, Director of Division of Social Services and Field Instructor
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Karen Kenley, Field Instructor

Virginia Treatment Center for Children

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196 School of Social Work

Western State Hospital (Staunton)

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Westminster Canterbury House

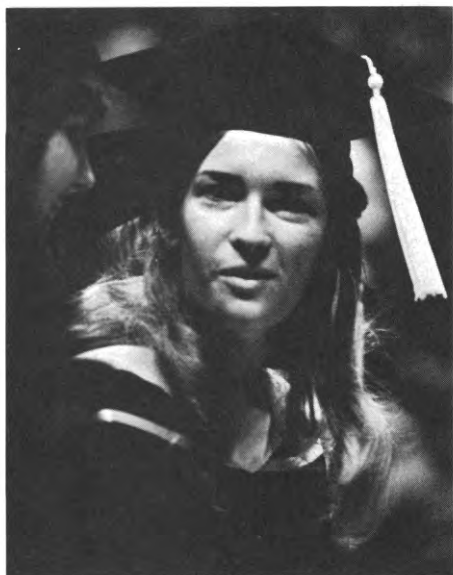
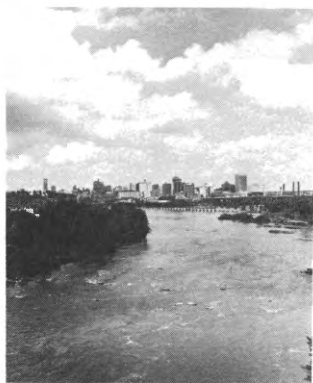
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Adams, Melissa A. (1977), *Clinical Instructor in Physical Therapy*, B.A., 1969, Wheaton College;

Certificate, 1970, University of Pennsylvania School of Allied Health.

Adler, Martin D. (1975), *Professor of Social Work*, A.B., 1952, M.S.W., 1956, Ph.D., 1962, University of Pittsburgh.

Allan, Richard E. (1972), *Associate Professor of Mathematical Sciences*, B.S., 1947, Sanford University; M.A., 1948, University of Alabama; Ph.D., 1971, George Peabody College.

Alexander, John (1975), *Assistant Professor of Oral Surgery*, D.D.S., 1966, Medical College of Virginia.

Allison, Marvin J. (1961), *Professor of Clinical Pathology*, B.A., 1942, College of William and Mary; M.A., 1947, Ph.D., 1960, University of Pennsylvania.

Allocco, Vincent A. (1975), *Assistant Professor and Assistant Director, Alcohol Education Program*, B.A., 1959, Mary of the Lake College; B.D., 1963, M.Th., Maryknoll Graduate School, Ossining, NY, University of State of New York; Ph.D., 1972, United States International University.

Ambrose, Anthony M. (1934), *Professor Emeritus of Pharmacology*, B.S. Philadelphia College of Pharmacy and Science; M.S., 1927, Ph.D., 1929, Fordham University.

Ameen, David (1974), *Associate Professor and Acting Chairman, Department of Information Systems*, B.S., 1950, U. S. Naval Academy; M.A., 1967, Ph.D., 1973, University of Maryland.

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Anderson, Ralph L. (1976), *Assistant Professor of Orthodontics*, B.S., 1960, Virginia State College; D.D.S., 1970, Virginia Commonwealth University.

Apgar, Nicholas A. (1962), *Associate Professor of Communication Arts and Design*, B.F.A., 1958, M.F.A., 1960, Syracuse University.

Armour, Robert A. (1963), *Associate Professor of English*, B.A., 1962, Randolph-Macon College; M.A., 1963, Vanderbilt University; Ph.D., 1968, University of Georgia.

Arnold, Edmund C. (1975), *Professor of Mass Communications*, A.B., 1954, Michigan State University; L.H.D., 1963, Hartwick College.

Armstrong, Janet C. (1974), *Instructor in Social Work*, B.S., 1968, M.S.W., 1970, Virginia Commonwealth University.

Astruc, Juan A. (1967), *Professor of Anatomy*, M.D., 1957, Ph.D., 1959, University of Granada, Spain.

Auerbach, Stephen M. (1973), *Assistant Professor of Psychology*, B.A., 1965, Queens College; M.S., 1969, Ph.D., 1971, Florida State University.

Auh, Taik S. (1976), *Instructor in Mass Communications*, B.A., 1965, Seoul National University; M.A., 1973, Indiana University; Ph.D., 1976, Indiana University.

Ayres, Ray M. (1969), *Associate Professor of Business and Director, The Management Center*, B.S., 1954, Richmond Professional Institute; Ph.D., 1974, University of Maryland.

- Bailey, James W. (1964), *Professor of Education*, A.B., 1942, Cornell College; B.D., 1947, Garrett Theological Seminary; M.Ed., 1950, University of Chicago.
- Baker, Stanley E. (1971), *Assistant Professor of Education*, B.A., 1955, Virginia Union University; M.A., 1968, M.Ed., 1974, Ed.D., 1975, Columbia University.
- Balster, Robert L. (1973), *Assistant Professor of Pharmacology*, B.S., 1966, University of Minnesota; Ph.D., 1970, University of Houston.
- Banks, Jr., William L. (1965), *Professor of Biochemistry and Surgery*, B.S., 1958, Rutgers University; M.S., 1961, Bucknell University; Ph.D., 1963, Rutgers University.
- Barber, Alice L. (1964), *Associate Professor of Social Work*, B.S., 1945, Southwestern Louisiana College; M.S.W., 1953, Tulane University.
- Barker, Thomas C. (1967), *Professor of Hospital and Health Administration and Dean, School of Allied Health Professions*, B.S., 1954, M.A., 1960, Ph.D., 1963, State University of Iowa.
- Barnes, Michael T. (1971), *Instructor in Education*, B.S., 1966, M.Ed., 1971, Virginia Commonwealth University.
- Barnes, Robert F. (1977), *Assistant Professor of Restorative Dentistry*, B.A., 1967, University of Virginia; D.D.S., 1973, Virginia Commonwealth University.
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- Bass, Robert G. (1962), *Professor of Chemistry*, B.S., 1954, Virginia Polytechnic Institute and State University; Ph.D., 1961, University of Virginia.
- Batty, L. Wayne (1949), *Professor of Music*, B.M.Ed., 1946, Illinois Wesleyan University; B.M. 1948, Kansas City Conservatory; M.M., 1949, Chicago Musical College.
- Bauer, David F. (1974), *Assistant Professor of Mathematical Sciences*, B.S. Ed., 1963, E. Stroudsburg State College; M.S., 1965, Ohio University; Ph.D., 1970, University of Connecticut.
- Beacham, E. Walton (1973), *Associate Professor of English*, B.S., 1967, Georgia Institute of Technology; B.A., 1968, Georgia State University; M.A., 1970, M.F.A., 1970 University of Arkansas.
- Beale, Andrew V. (1969), *Associate Professor of Education*, A.B., 1963, M.S., 1964, University of North Carolina; Ed.D., 1969, University of Virginia.
- Beall, Larry (1970), *Associate Professor of Economics*, B.A., 1963, State University of New York at Binghamton; M.A., 1967, University of South Carolina; Ph.D., 1973, Duke University.
- Bear, S. Elmer (1951), *Professor and Chairman, Department of Oral Surgery and Professor of Surgery*, D.D.S., 1945, Northwestern University.
- Bearden, Florence M. (1975), *Associate Professor of Occupational Therapy*, B.A., 1948, University of North Carolina; M.A., 1969, University of Southern California.
- Beaven, Mary H. (1975), *Associate Professor of Education*, B.A., 1959, M.A., 1967, Ph.D., 1971, Northwestern University.
- Bedno, Edward (1972), *Associate Professor of Communication Arts and Design*, B.F.A., 1950, Art Institute of Chicago; M.S., 1952, Institute of Design, Illinois Institute of Technology.
- Bell, Dewey H. (1952), *Professor and Chairman, Department of Removable Prosthodontics*, B.S., 1948, Wofford College; D.D.S., 1952, Medical College of Virginia.
- Belloni, Frank P. (1973), *Assistant Professor of Political Science*, B.A., 1958, University of California, Riverside; M.A., 1962, University of Iowa; Ph.D., 1972, University of California, Los Angeles.
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- Berry, Boyd M. (1974), *Associate Professor of English*, B.A., 1961, Harvard University; M.A., 1962, Ph.D., 1966, University of Michigan.
- Berry, Sam G. (1971), *Assistant Professor of Finance*, B.S., 1967, M.B.A., 1968, D.B.A., 1976, Florida State University.
- Beverly, David P. (1973), *Associate Professor of Social Work and Director, B.S.W. Program*, B.A., 1952, University of Richmond; M.S.S.W., 1964, Richmond Professional Institute; D.S.W., 1971, Catholic University of America.
- Bevilaqua, William (1955), *Professor of Communication Arts and Design*, B.F.A., 1950, Virginia Commonwealth University; M.F.A., 1951, University of North Carolina.
- Bhatnagar, Ajay S. (1968), *Assistant Professor of Obstetrics and Gynecology and Biochemistry*, B.A., 1963, M.A., 1967, University of Cambridge, England; Ph.D., 1967, University of Basel, Switzerland.
- Biber, Margaret C. (1975), *Associate Professor of Physiology*, B.Sc., 1964, University College, London; D.Phil., 1967, Oxford University (England).
- Biber, Thomas U. L. (1975), *Professor of Physiology*, M.D., 1956, University of Bern Medical School, Switzerland.
- Bick, Donald A. (1973), *Assistant Professor of Music*, B.M., 1970, Eastman School of Music; M.M., 1974, University of Maryland.
- Biggerstaff, Marilyn A. (1977), *Assistant Professor of Social Work*, B.A., 1967, Baker University; M.S.W., 1969, University of Kansas; D.S.W., 1976, University of Southern California.
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- Binder, C. James (1976), *Assistant Professor of Public Administration*, B.A., 1961, M.A., 1965, San Jose State College; M.A., 1967, University of California; Ph.D., 1973, University of Virginia.
- Blanke, Robert V. (1972), *Professor of Clinical Pathology and Pharmacology*, B.S., 1949, Northwestern University; M.S., 1953, Ph.D., 1958, University of Illinois.
- Blankenship, M. Elise (1974), *Associate Professor of Education*, B.S., 1955, Centenary College; M.Ed., 1958, University of Maryland; C.A.S., 1966, Syracuse University; Ed.D., 1969, University of Houston.
- Bleick, Charles F. (1976), *Instructor in Art Education*, B.A., 1967, M.A., 1970, Chico State College.

- Blem, Charles R. (1969), *Associate Professor of Biology*, B.S., 1965, Ohio University; M.S., 1968, Ph.D., 1969, University of Illinois.
- Bogdanove, Emanuel M. (1971), *Professor of Physiology*, B.S., 1946, City College of New York; M.S., 1950, Ph.D., 1953, State University of Iowa.
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- Bonds, Maurice (1942), *Professor of Art History and Chairman, Department of Art History*, B.F.A., 1940, Virginia Commonwealth University; M.A., 1947, Columbia University.
- Booth, Mark W. (1976), *Assistant Professor of English*, B.A., 1965, Rice University; M.A., 1966, Ph.D., 1971, Harvard University.
- Boots, Marvin R. (1966), *Associate Professor of Pharmaceutical Chemistry*, B.S., 1958, St. Louis College of Pharmacy; M.S., 1960, University of Wisconsin; Ph.D., 1963, University of Kansas.
- Boraks, Nancy E. (1973), *Assistant Professor of Education*, B.S., 1960, Boston State Teacher's College; M.A., 1965, Washington State University; Ph.D., 1973, University of Colorado.
- Borlick, Martha M. (1970), *Professor and Chairman, Department of Community Health Nursing*, B.S.N., 1949, Catholic University of America; M.A., 1954, Columbia University; Ed.D., 1966, University of Maryland.
- Borzelleca, Joseph F. (1959), *Professor of Pharmacology*, B.S., 1952, St. Joseph's College; M.S., 1954, Ph.D., 1956, Thomas Jefferson University.
- Bost, William (1974), *Associate Professor of Education and Chairman, Department of Educational Leadership and Personnel Development*, B.S., 1952, South Eastern Missouri State College; M.A., 1956, Ed.D., 1961, George Peabody College.
- Bowe, Robert L. (1964), *Associate Professor of Pharmacology*, B.S., 1950, M.S., 1957, Boston College; Ph.D., 1960, University of Tennessee.
- Bowie, Jonathan T. (1963), *Associate Professor of Communication Arts and Design*, B.F.A., 1956, Colorado College; M.F.A., 1963, University of Michigan.
- Boyd, Robert S. (1973), *Assistant Professor of Mass Communications*, A.B., 1949, Bethany College; M.A., 1970, University of Florida.
- Boyer, Jean R. (1976), *Assistant Professor of Vocational Rehabilitation*, B.A., 1962, Clarion State College; M.S., 1970, Indiana University.
- Boykin, James H. (1971), *Associate Professor of Real Estate and Urban Land Development and Holder of the Alfred L. Blake Chair*, B.S., 1961, Virginia Polytechnic Institute and State University; M.C., 1967, University of Richmond; Ph.D., 1971, American University; M.A.I., S.R.P.A.
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- Bradley, S. Gaylen (1968), *Professor and Chairman, Department of Microbiology*, B.A., B.S., 1950, State University Southwest Missouri; M.S., 1952, Ph.D., 1954, Northwestern University.
- Brandt, Richard B. (1970), *Associate Professor of Biochemistry*, B.S., 1952, Queens College, New York; M.A., 1961, Brooklyn College, New York; Ph.D., 1968, New York University.
- Bremer, David M. (1972), *Instructor in Photography*, B.F.A., 1968, M.A., 1972, Ohio University.
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- Brown, E. Allan (1951), *Professor of English*, A.B., 1941, M.A., 1947, Ph.D., 1952, University of North Carolina.
- Brown, E. Lou (1975), *Assistant Professor of Gerontology*, B.S., 1969, Virginia Commonwealth University; M.S., 1971, University of North Carolina.
- Brown, Judith A. (1975), *Associate Professor of Human Genetics and Obstetrics and Gynecology*, B.A., 1962, University of Maine; Ph.D., 1970, Indiana University.
- Brown, Russell V. (1974), *Professor and Chairman, Department of Biology*, B.A., 1948, M.A., 1950, University of Tulsa; Ph.D., 1962, Iowa State University.
- Browning, Fred M. (1973), *Associate Professor of Physical Education*, B.S., 1964, Berry College; M.S., 1966, Ph.D., 1969, Florida State University.
- Brownstein, Marshall P. (1975), *Assistant Professor of Pedodontics*, B.S., 1963, D.D.S., 1967, University of Maryland.
- Bryant, J. Howard (1975), *Associate Professor of Information Systems*, B.A., 1951, Louisiana College; M.A., 1957, Ph.D., 1959, Louisiana State University.
- Bumgardner, James A. (1958), *Associate Professor of Painting*, B.F.A., 1958, Virginia Commonwealth University; 1957 Hans Hofmann School of Art.
- Burke, Jr., George W. (1946), *Professor of Restorative Dentistry and Lecturer in Anatomy*, B.S., 1941, University of Virginia; D.D.S., 1944, Medical College of Virginia.
- Burke, Jack D. (1963), *Professor of Anatomy*, B.A., 1948, University of Tennessee; M.S., 1949, West Virginia University; Ph.D., 1952, University of Florida.
- Burmeister, John A. (1977), *Assistant Professor of Periodontics*, A.B., 1965, Wittenberg University; D.D.S., 1960, Ohio State University; M.S., 1977, Virginia Commonwealth University.

- Burress, III, Thomas H., (1976), *Assistant Professor and Coordinator of Vocational Rehabilitation*, B.A., 1950, Texas Southern University; M.S.W., 1957, University of Pennsylvania.
- Bush, Francis M. (1964), *Associate Professor of Occlusion*, B.S., 1955, M.S., 1957, D.M.D., 1975, University of Kentucky; Ph.D., 1962, University of Georgia.
- Bushway, Collin (1969), *Professor of Management*, M.B.A., 1958, University of Chicago; D.B.A., 1969, George Washington University.
- Butler, James H. (1974), *Associate Professor and Chairman, Division of Occlusion*, B.A., 1958, Denison University; D.D.S., 1962, Ohio State University; M.S., 1967, University of Rochester.
- Button, Gilbert L. (1976), *Assistant Professor of Restorative Dentistry*, B.S., 1969, Virginia Polytechnic Institute and State University; D.D.S., 1973, Virginia Commonwealth University.
- Calabrese, Vincent P. (1972), *Assistant Professor of Neurology*, A.B., 1961, Columbia College; M.D., 1965, State University of New York.
- Campbell, Jewett (1948), *Professor of Painting and Printmaking*, 1935, Art Students' League (three years); 1949, Skowhegan School of Painting and Sculpture (two summers); 1957, Hans Hofmann School of Art (two summers).
- Campbell, Kenneth (1970), *Professor of Theatre and Chairman, Department of Theatre*, M.A., 1953, University of Glasgow, Scotland; M.A., 1961, Catholic University; Ph.D., 1965, University of Denver.
- Campbell, Robert L. (1977), *Associate Professor of Oral Surgery*, B.S., 1964, John Carroll University; D.D.S., 1968, Case Western Reserve University.
- Canavos, George C. (1975), *Assistant Professor of Management Science*, B.S., 1963, M.S., 1967, Ph.D., 1971, Virginia Polytechnic Institute and State University.
- Carchman, Richard A. (1974), *Assistant Professor of Pharmacology*, B.S., 1966, Long Island University; Ph.D., 1972, State University of New York.
- Carlo, Jaime R. (1976), *Assistant Professor of Pathology*, B.D., 1967, Medical College of Georgia; M.C., 1968, University of Georgia; Ph.D., 1976, University of Maryland.
- Carlyon, Richard N. (1960), *Associate Professor of Art History*, B.F.A., 1953, M.F.A., 1963, Virginia Commonwealth University.
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- Carrier, Loran F. (1973), *Associate Professor of Music*, A.A., Assumption Abbey; B.M., 1966, M.M., 1967, Catholic University; D.M.A., 1970, University of Maryland.
- Carter, Robert (1976), *Instructor in Communication Arts and Design*, B.F.A., 1974, University of Utah; M.F.A., 1976, University of Illinois.
- Carter, Jr., Walter H. (1968), *Associate Professor of Biostatistics*, B.S., 1963, University of Richmond; M.S., 1966, Ph.D., 1968, Virginia Polytechnic Institute and State University.
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- Cheney, H. Gordon (1971), *Associate Professor and Chairman, Department of Community Dentistry*, D.D.S., 1955, University of Maryland; A.B., 1965, State University of New York at Buffalo; M.P.H., 1971, University of Michigan.
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- Clarke, Alexander M. (1964), *Associate Professor of Biophysics*, B.S., 1958, Virginia Military Institute; M.S., 1960, Ph.D., 1963, University of Virginia.
- Cleary, Stephen F. (1964), *Professor of Biophysics*, B.S., 1958, New York University; M.S., 1960, University of Rochester; Ph.D., 1964, New York University.
- Coffman, Edward N. (1966), *Associate Professor of Accounting*, B.S., 1965, M.S., 1967, Virginia Commonwealth University; D.B.A., 1973, George Washington University.
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- Collins, James M. (1969), *Associate Professor of Biochemistry*, B.S., 1962, University of Southern Mississippi; Ph.D., 1968, University of Tennessee.
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- Corley, Karl C. (1965), *Assistant Professor of Physiology*, B.S., 1958, Trinity College; Ph.D., 1964, University of Rochester.
- Crabtree, Donald D. (1974), *Assistant Professor of Removable Prosthodontics*, B.S., 1962, Muskigum College; D.D.S., 1966, Northwestern University.
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- Davis, Herbert J. (1969), *Assistant Professor of Business*, B.A., 1965, Villanova University; M.B.A., 1968, East Carolina University; Ph.D., 1974, Louisiana State University.
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- Davis, Robert G. (1973), *Assistant Professor of Physical Education*, B.S., 1963, West Chester State College; M.Ed., 1965, Pennsylvania State University; Ph.D., 1973, University of Maryland.
- Davis, William T. (1973), *Instructor in Theatre*, B.A., 1969, Lawrence University; M.F.A., 1971, Northwestern University.
- Dayal, Hari H. (1977), *Assistant Professor of Biostatistics*, B.S., 1961, M.S., 1963, Institute of Social Sciences, AGRA; Ph.D., 1972, State University of New York at Buffalo.
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- DeGenaro, Guy J. (1970), *Associate Professor of Management*, B.S., 1957, University of Maryland; M.B.A., 1960, Indiana University; Ph.D., 1971, University of Florida.
- Dennis, Rutledge M. (1971), *Assistant Professor of Sociology and Coordinator of Afro-American Studies Program*, B.A., 1965, South Carolina State; M.A., 1969, Ph.D., 1975, Washington State University.
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- DePillars, Murry N. (1971), *Assistant Professor of Art and Dean, School of the Arts*, B.A., 1968, M.A., 1970, Roosevelt University, Chicago; Ph.D., 1976, The Pennsylvania State University.
- DeSimone, John A. (1974), *Assistant Professor of Physiology*, B.A., 1964, State University of New York; Ph.D., 1970, Harvard University.
- DeSmidt, Thomas H. (1971), *Assistant Professor of Painting and Printmaking and Assistant Dean, School of the Arts*, A.A., 1965, Lincoln College; B.F.A., 1969, Layton School of Art; M.F.A., 1970, Syracuse University.
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- DeVries, George H. (1972), *Associate Professor of Biochemistry*, B.S., 1964, Wheaton College; Ph.D., 1969, University of Illinois.
- Dewey, William L. (1972), *Professor of Pharmacology*, B.S., 1957, St. Bernardine of Siena College; M.S., 1964, The College of Saint Rose; Ph.D., 1967, University of Connecticut.
- Diana, Lewis (1968), *Professor of Sociology*, A.B., 1949, Harvard University; M.A., 1952, Ph.D., 1953, University of Pittsburgh.

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- Dixon, Clifton (1958), *Assistant Professor of Photography*, B.A., 1954, King College; M.Div., 1957, Th.M., 1958, Union Theological Seminary; M.A., 1976, University of Maryland.
- Dodini, Luann D. (1975), *Assistant Professor of Pharmacy*, M.S., 1975 University of Rochester; Pharm.D., 1970 University of California.
- Doering, Anne (1976), *Instructor in Painting and Printmaking*, B.F.A., 1971, Wayne State University; M.A., 1975, University of New Mexico.
- Dorfman, Howard S. (1973), *Assistant Professor of Periodontics*, B.S., 1965, Bates College; D.M.D., 1969, Tufts University.
- Donato, Gerald M., (1967), *Assistant Professor of Painting*, B.S., 1965, M.A., 1965, Northern Illinois University; M.F.A., 1967, University of Wisconsin.
- Dorsam, Paul J. (1973), *Assistant Professor of Music*, B.M., 1962, B.M.E., 1963, M.M., 1967, New England Conservatory of Music; D.M.A., 1974, Boston University.
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- Douglas, Hugh B. (1970), *Assistant Professor of Restorative Dentistry*, B.S., 1966, College of William and Mary; D.D.S., 1970, Virginia Commonwealth University; M.S., 1974, University of North Carolina.
- Drought, Michael H. (1975), *Instructor in Painting*, B.S., 1969, M.F.A., 1973, University of Wisconsin, Madison.
- Duke, Elizabeth F. (1966), *Associate Professor of English*, B.A., 1958, Longwood College; M.A., 1960, University of Virginia; Ph.D., 1968, University of Iowa.
- Duke, Maurice (1966), *Associate Professor of English*, A.B., 1962, College of William and Mary; M.A., 1965, Ph.D., 1968, University of Iowa.
- Durna, Richard J. (1967), *Professor of Medicine and Pathology*, B.S., 1955, Virginia Polytechnic Institute; M.D., 1959, University of Virginia.
- Duncan, Jack A. (1970), *Associate Professor of Education*, B.S., 1955, Millersville State College; M.Ed., 1959, Temple University; Ed.D., 1965, University of Georgia.
- Duncan, Patricia H. (1971), *Assistant Professor of Education*, B.S., 1956, Millersville State College; M.Ed., 1965, Ed.D., 1970, University of Georgia.
- Dutz, Werner (1974), *Professor of Pathology*, M.D., 1953, University of Vienna.
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- Earl, Jack (1972), *Associate Professor of Crafts*, B.A., 1956, Bluffton College; M.A., 1963, Ohio State University.
- East, James M. (1977), *Assistant Professor of Anatomy*, B.S., 1970, Ph.D., 1977, Thomas Jefferson University.
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- Edwards, Leslie E. (1947), *Professor of Physiology*, B.S., 1937, M.S., 1939, Washington State University; Ph.D., 1944, University of Rochester.
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- Egle, Jr., John L. (1966), *Associate Professor of Pharmacology*, B.S., 1961, Shepherd College; M.S., 1963, Ph.D., 1964, West Virginia University.
- Elford, Howard L. (1975), *Associate Professor of Biochemistry*, B.S., 1958, University of Illinois; Ph.D., 1962, Cornell University.
- Ellis, Jr., Earl F. (1977), *Assistant Professor of Pharmacology*, B.S., 1968, Ph.D., 1974, Bowman Gray School of Medicine.
- Ely, Vivien King (1962), *Professor of Education*, B.S., 1941, East Tennessee State University; M.S., 1965, Virginia Commonwealth University; M.Ed., 1972, University of Virginia; Ed.D., 1975, North Carolina State University.
- Elzay, Richard P. (1962), *Professor and Chairman, Department of Oral Pathology*, D.D.S., 1960, B.S., M.S.D., 1962, Indiana University.
- England, Marshall (1965), *Associate Professor and Chairman, Department of Endodontics*, B.S., 1954, Maryville College; D.D.S., 1958, M.S., 1967, Medical College of Virginia.
- Epstein, Ludwig I. (1967), *Associate Professor of Biophysics*, B.S., 1940, M.S., 1941, California Institute of Technology; Ph.D., 1967, Ohio State University.
- Erickson, Marilyn T. (1976), *Professor of Psychology*, A.B., 1957, Pembroke State University; M.A., 1959, Brown University; Ph.D., 1961, University of Washington.
- Escobar, Mario R. (1967), *Associate Professor of Clinical Pathology*, A.B., 1954, University of Louisville; M.S., 1960, Georgetown University; Ph.D., 1963, Indiana University.
- Eshleman, J. Robert (1960), *Associate Professor of Restorative Dentistry*, D.D.S., 1960, Medical College of Virginia.
- Evans, Herbert J. (1974), *Assistant Professor of Biochemistry*, B.S., 1963, Pennsylvania State University; Ph.D., 1969, Case Western Reserve.
- Fabiato, Alexandre (1975), *Professor of Physiology*, M.D., 1963, Faculte de Medecine de Paris; Ph.D., 1970, Faculte de Science de Paris.

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- Fallen, Nancy H. (1967), *Associate Professor of Education*, B.S. 1939, Mary Washington College; M.Ed., 1966, College of William and Mary; Ed.D., 1972, University of Maryland.
- Fallon, Harold Joseph (1974), *Professor of Medicine and Chairman, Department of Medicine*, B.A., 1953, M.D., 1957, Yale University.
- Farley, Reuben W. (1968), *Associate Professor of Mathematical Sciences, and Acting Chairman, Department of Mathematical Sciences*, B.S., 1961, Randolph-Macon College; M.A., 1965, Ph.D., 1968, University of Tennessee.
- Farris, Daniel L. (1977), *Assistant Professor of Social Work*, B.A., 1968, Emory and Henry College; M.S.W., 1972, Tulane University.
- Farrington, Frank H. (1977), *Professor and Chairman, Department of Pedodontics*, D.D.S., 1965, M.S., 1969, Marquette University.
- Feldman, Robert S. (1974), *Assistant Professor of Psychology*, B.A., 1970, Wesleyan University; M.S., 1972, Ph.D., 1974, University of Wisconsin, Madison.
- Ferguson, Jerry T. (1965), *Assistant Professor of Business Administration*, B.S., 1960, M.S., 1965, Virginia Polytechnic Institute and State University.
- Ferguson, Steve G. (1974), *Assistant Professor of Psychology*, A.B., 1969, University of Chattanooga; M.A., 1971, Ph.D., 1974, Ohio State University.
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- Field, Jerry Jewett (1961), *Professor of Interior Design*, B.S., 1943, Certificate in Interior Design, 1947, Virginia Commonwealth University; Diploma, 1950, Parsons School of Design.
- Fields, Owen F. (1972), *Assistant Professor of Business Education and Office Administration*, B.S., 1967, Waynesburg College; M.Ed., 1970, Ed.D., 1972, University of Pittsburgh.
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- Fisher, Lyman McA. (1960), *Professor of Clinical Pathology*, B.A., 1951, University of Western Ontario; M.A., 1954, Ph.D., 1957, M.D., 1960, University of Saskatchewan, Canada.
- Fisher, Robert W., Jr. (1975), *Assistant Professor of Biology*, B.A., 1966, University of California, Sacramento; M.A., 1969, University of California, Santa Cruz; Ph.D., 1974, Syracuse University.
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- Ford, George D. (1969), *Assistant Professor of Physiology*, B.S., 1961, West Virginia University; M.S., 1964, University of Iowa; Ph.D., 1967, West Virginia University.
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- Ottenbrite, Raphael M. (1967), *Associate Professor of Chemistry*, B.S., 1959, M.S., 1962, Assumption University; Ph.D., 1967, University of Windsor.
- Owens, Kenneth (1975), *Associate Professor of Biophysics*, B.S., 1957, Liverpool University; M.S., 1959, Manchester University; Ph.D., 1964, London University.
- Owers, Noel O. (1969), *Associate Professor of Anatomy*, B.S., 1948, Ph.D., 1956, University of Nagpur.
- Ozman, Jr., Howard A. (1970), *Professor of Education*, A.B., 1954, University of Virginia; M.A., 1957, Ed.D., 1962, Columbia University.
- Page, Dennis G. (1973), *Assistant Professor of Oral Pathology*, A.B., 1963, Westminster College; B.S., 1965, D.D.S., 1967, University of Illinois; M.S., 1973, Loyola University (Chicago).
- Pagels, John F. (1969), *Assistant Professor of Biology*, B.S., 1965, Central Michigan University; M.S., 1968, Ph.D., 1970, Tulane University.
- Pakurar, Alice S. (1970), *Assistant Professor of Anatomy*, B.S., 1963, Ohio University; M.S., 1965, Ph.D., 1968, University of Michigan.
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- Pearce, C. Glenn (1975), *Assistant Professor of Business Education and Office Administration*, B.B.A., 1961, University of Georgia; M.A., 1969, New York University; Ph.D., 1974, Georgia State University.
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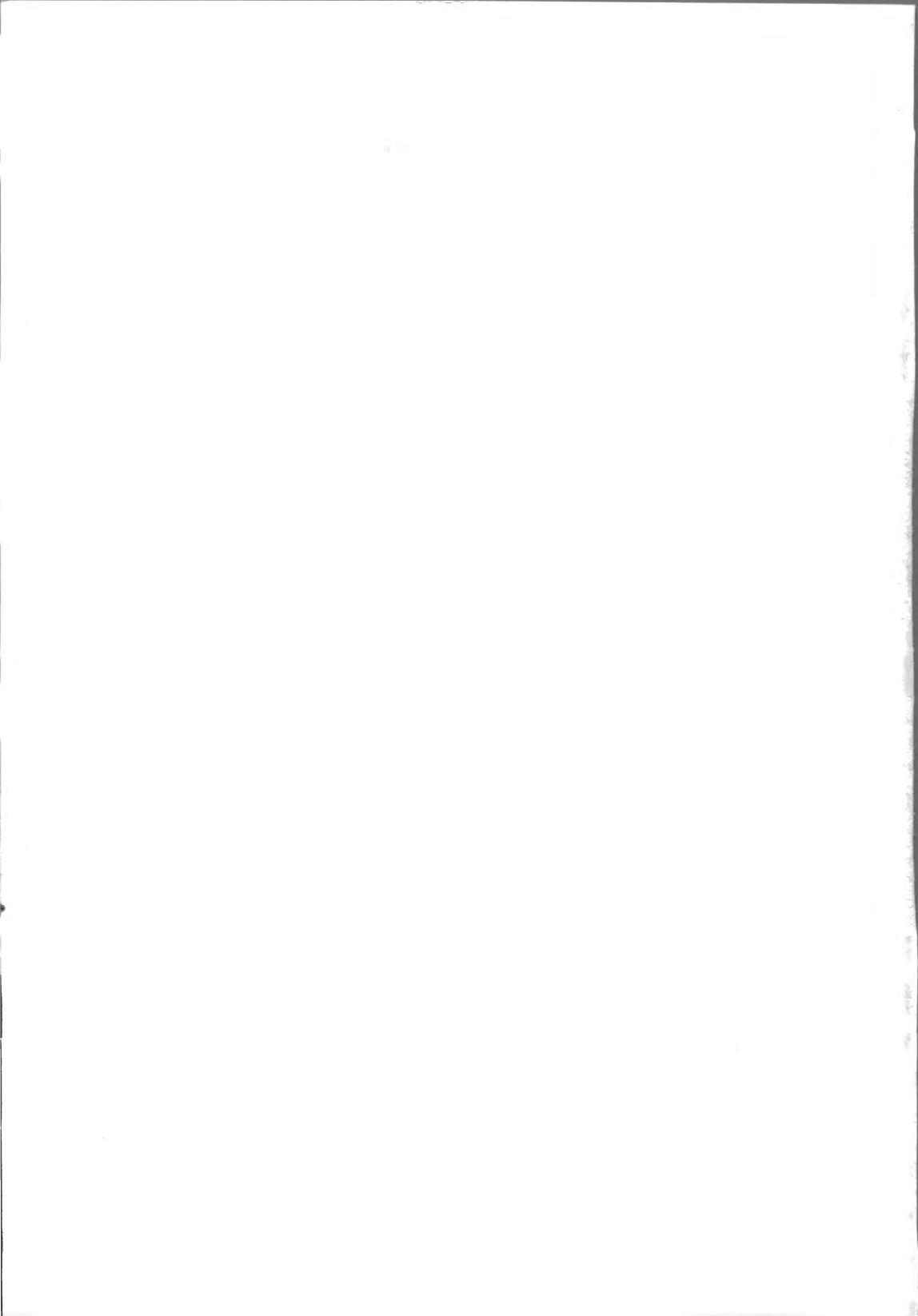
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